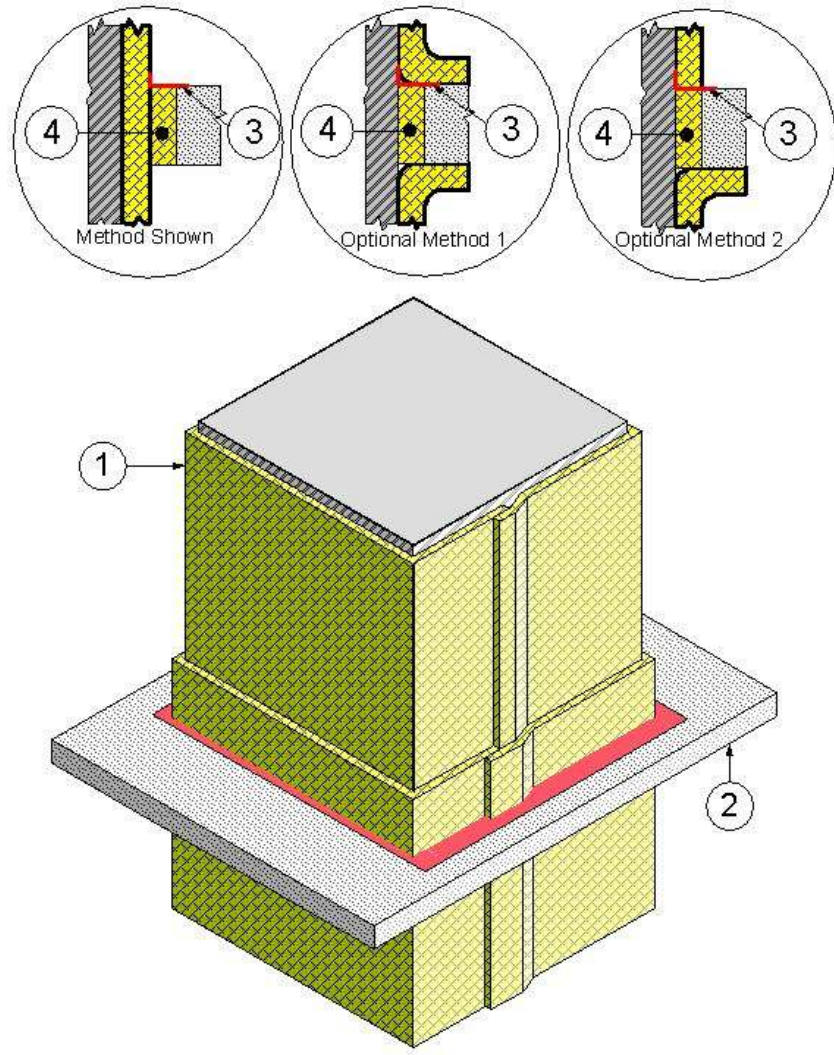


Design No. UNI/FRD 120-21  
OPL Design No. FS 599 F  
**FIRE PENETRATION SEAL (Ventilation Duct)**  
Unifrax I LLC  
FyreWrap® Duct Insulations  
ISO 6944 – Duct A  
Integrity, Stability, Insulation – 2 hr



1. PENETRATING ITEM: An airtight duct system with vertical duct sections constructed of min. 26 GA (0.0179 in) plain sheet steel with max. 1296-in. area and max. 54-in. width (max. dim. 24-in. x max. 54-in.) and insulated as detailed in Design VAD 560 F.

2. CERTIFIED MANUFACTURER: Unifrax I LLC  
CERTIFIED PRODUCT: Insulation Blanket  
MODEL: FyreWrap® Elite™ 1.5 Duct Insulation (6 pcf)

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MODEL: FyreWrap® EZ 1.5 Duct Insulation (6 pcf)

MODEL: FyreWrap® 1.5 Duct Insulation (8 pcf)

MODEL: FyreWrap® MAX 2.0 Duct Insulation (8 pcf)

INSULATION: Use nom. 1-1/2-in. thick, 6-pcf (FyreWrap® Elite™ 1.5 or FyreWrap® EZ 1.5), 1-1/2-in. thick, 8-pcf (FyreWrap® 1.5), or nom. 2 in. 8pcf (FyreWrap® MAX 2.0) blanket made of soluble amorphous wool fibers or calcium magnesium silica fibers. Use one layer min. 1-1/2-in. thick, 6-pcf blanket. Use blanket that is fully encapsulated or single faced with foil-scrim-metallized polyester facing. The FyreWrap® was run continuously through the floor/ceiling assembly (Item 3).

Optional Method 1 – The FyreWrap® Duct Insulation was terminated and flared out onto the bottom side of the floor/ceiling assembly (Item 3) for a minimum distance of one inch, covering the packing material (Item 5). On the top side the FyreWrap® Duct Insulation was terminated and flared out onto the floor/ceiling assembly (Item 3) three inches to cover the fill, void or cavity material (Item 4).

Optional Method 2 – The FyreWrap® Duct Insulation was terminated and flared out onto the bottom side of the floor/ceiling assembly (Item 3) for a minimum distance of one inch, covering the packing material (Item 5). On the top side the FyreWrap® Duct Insulation was terminated straight down to cover all or part of the fill, void or cavity material (Item 4).

3. FLOOR/CEILING ASSEMBLY: The two-hour fire-rated floor/ceiling assembly consists of min. 4-1/2 in. thick normal weight (100 to 150 pcf) reinforced concrete. Create an opening in the floor assembly measuring max. 29-1/2 in. long x 59-in. wide. Position the duct assembly concentrically or eccentrically

in the opening so that the annular space ranges from min. 1 in. on one side to max. 2 in. on the other. Other opening sizes are allowed provided that the size does not create an annular space greater than 2 in. or smaller than 1 in. between the penetrating item and the face of the opening in the floor/ceiling assembly.

4. FILL, VOID OR CAVITY MATERIAL: Min. 1/4-in. depth of sealant fill material is to be applied to the recess around the top surface of the floor through-penetration opening. The sealant material overlapped the concrete and the insulation on the duct nom. 3/4-in.

CERTIFIED MANUFACTURER:  
Specified Technologies Inc.  
(STI) CERTIFIED PRODUCT:  
Firestopping Sealant  
MODEL: SpecSeal Series SSS  
Intumescent Firestop Sealant

5. PACKING MATERIAL: Fill the annular space with leftover FyreWrap® Duct Insulation without the foil facing, nom. 6 pcf fibrous blanket. Cut the blanket into 9 in strips. Then fold the blanket into a "U" shape and compress it a minimum of 33% and put in into the annual space. Recess the surface of packing material a min. 1/4 in. from the top surface of the floor, as required to accommodate the necessary depth of caulk fill material.

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