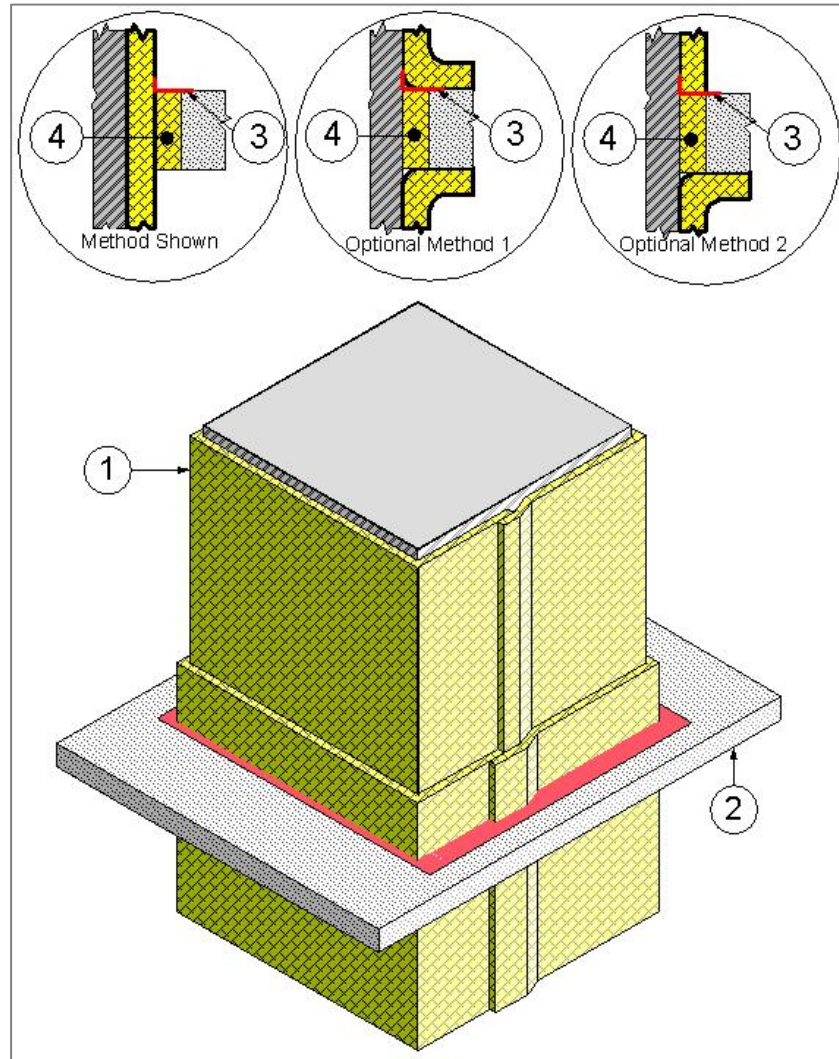


Design No. FS 599 F

FIRE PENETRATION SEAL (Ventilation Duct)

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 with 1 layer of 6 pcf, 1-1/2 in. Unifrax Corporation's Duct Insulation as detailed in Design VAD 560 F. The duct insulation shall run

continuously through the floor/ceiling assembly (Item 2).

Optional Method 1 – The duct insulation shall terminate and flare out onto the bottom side of the floor/ceiling assembly (Item 2) for a minimum distance of one inch, covering the packing material (Item 4). The top side the duct insulation shall terminated and flared out onto the floor/ceiling assembly (Item 2) three

## Through-Penetration Fire Stop System

inches to cover the fill, void or cavity material (Item 3).

- Optional Method 2 – The duct insulation shall terminate and flare out onto the bottom side of the floor/ceiling assembly (Item 2) for a minimum distance of one inch, covering the packing material (Item 4). The top side of the Duct Insulation shall terminate straight down to cover all or part of the fill, void or cavity material (Item 3).
2. FLOOR/CEILING ASSEMBLY: The two-hour fire-rated floor/ceiling assembly shall consist 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.
  3. FILL, VOID OR CAVITY MATERIAL: Min. 1/4-in. depth of sealant fill material shall be applied to the recess around the top surface of the floor through-penetration opening. The sealant material should overlap the concrete and the insulation on the duct nom. 3/4-in.

### Listed Manufacturer:

Specified Technologies Inc. (STI)

Firestopping

Firestopping Sealant

SpecSeal Series SSS

Intumescent Firestop

Sealant

4. PACKING MATERIAL: Fill the annular space with leftover duct insulation without the foil facing, 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.

### Listed Manufacturer:

Unifrax Corporation

Applied Fireproofing

Insulation Blanket

FyreWrap® EZ 1.5 Duct  
Insulation (6 pcf)

FyreWrap® 1.5 Duct  
Insulation (8 pcf)

FyreWrap® MAX 2.0 Duct  
Insulation (8 pcf)