Design Number UNI/PF 180-02
THROUGH-PENETRATION FIRESTOP SYSTEM
(VERTICAL THROUGH-PENETRATION)
Unifrax I LLC
FyreWrap® Elite® 1.5 Duct Insulation
ASTM E814
F-Rating – 3 hours
T-Rating – 3 hours

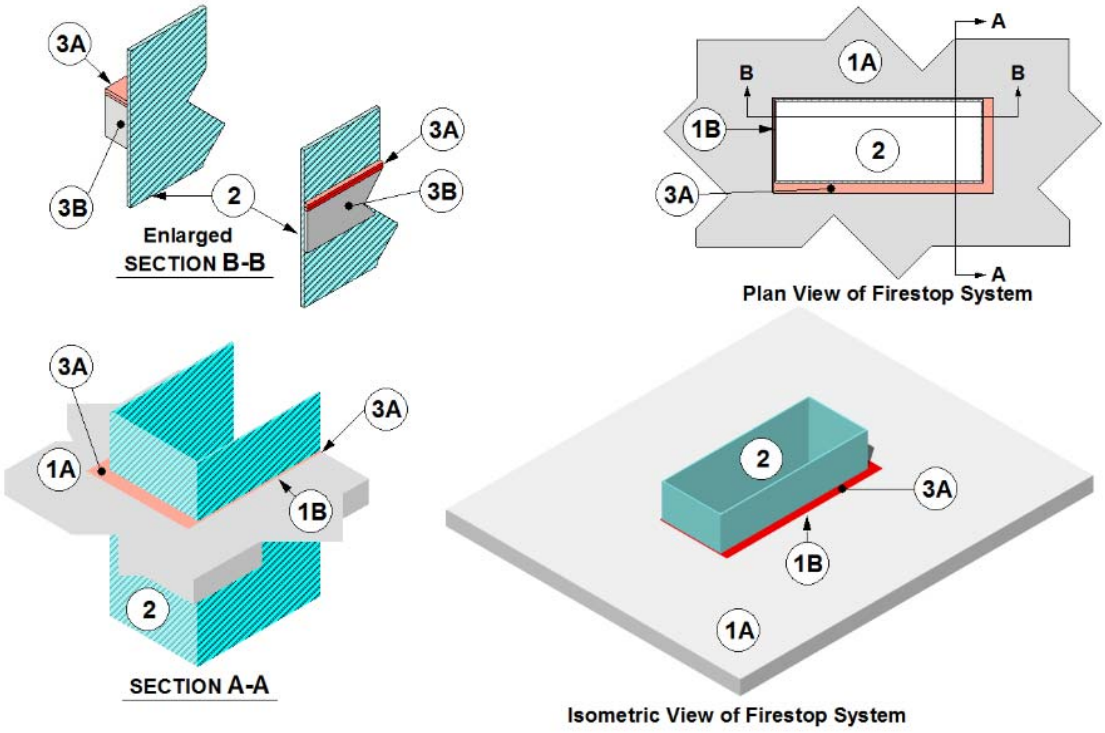

Figure 1 – Vertical Through-Penetration Firestop System

1. FLOOR/CEILING ASSEMBLY: Use a min. 3 hour fire resistance rated floor/ceiling assembly.

   A. Use min. 5.7 in. thick normal weight or 4.4 in. thick lightweight (100 to 150 pcf) reinforced concrete.
   B. Create an opening in the floor assembly compatible with the vertical penetrating item dimensions and an annular space between 0.5 and 3 in. Max. opening 29 in. x 59 in. for max. ventilation duct (Item 1) dimensions and annular space.

2. VENTILATION DUCT: Use only the min. 3 hour fire resistance rated ventilation duct described in Intertek Design Number UNI/DI 180-02.

   Refer to Figure 2. Affix min. 1 in. x 1 in. x 1/8 in. RSA additional perimeter steel reinforcement (Item 2A and Item 2B) 3 in. from both sides of the floor/ceiling assembly (item 1) secured using with 2 x 1/4 in. hex head bolts, nuts, and washers, 12 in. on center (oc) positioned with nuts and washers installed from the inside of the duct after the fill, void, or cavity material has reached a "skinned-over" condition. Alternatively the

additional reinforcement may be attached to the ventilation duct (Item 1) using 4mm (0.157 in.) diameter steel pop rivets and/or M4 x .07, 12.7 mm long (#8, 0.5 in. long) self-drilling Phillips truss head screws spaced 152 mm (6 in.) oc

Use insulation cited in Intertek Design Number UNI/DI 180-02 under Item 2 to wrap the ventilation duct.

Ensure that the fill, void or cavity material (Item 3B) has reached a “skinned-over” condition prior to installing the insulation. Compress each layer of insulation a min. 1 in. and butt the two layers of insulation against the fill, void or cavity material (Item 3B) and floor/ceiling assembly (Item 1) on both sides of the floor/ceiling assembly (Item 1). Insulation wrapped around the ventilation duct must be installed to cover the entire annular space of the opening.

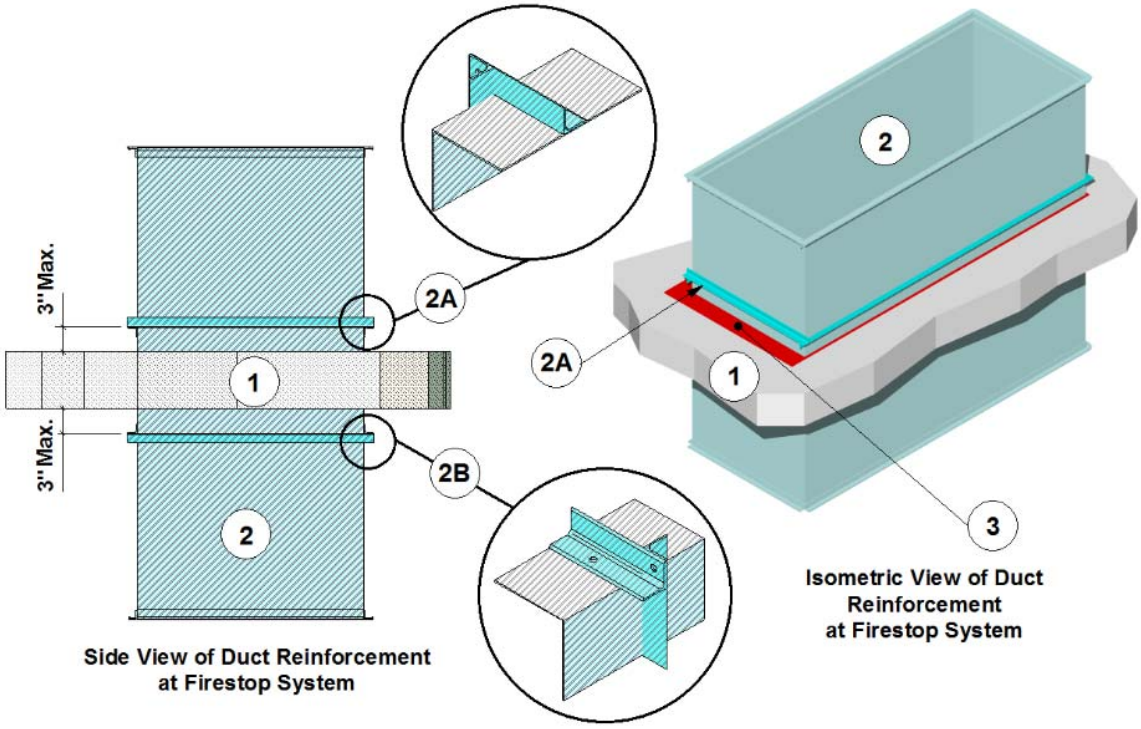

Figure 2 – Vertical Ventilation Duct Reinforcement

3. FIRESTOP SYSTEM: Use one of the following combinations of a packing material and fill, void, or cavity material.

   A. CERTIFIED MANUFACTURER: Unifrax I LLC

      CERTIFIED PRODUCT: Duct Insulation

      CERTIFIED MODEL: FyreWrap® Elite® 1.5 Duct Insulation

      PACKING MATERIAL: Use only the insulation cited above, which is described in Intertek Design Number UNI/DI 180-02 under Item 2. Remove the foil-encapsulation material from the insulation, exposing the fibrous core of the blanket. Use the fibrous core of the blanket as the packing material. Fill the annular space with this insulation compressed min. of 33%. Recess the surface of packing material min. 1/2 in. from the top surface the floor/ceiling assembly (Item 1) that is required to accommodate the depth of fill material.

   B. CERTIFIED MANUFACTURER: 3M

CERTIFIED PRODUCT: Sealant

CERTIFIED MODEL: Fire Barrier™ 1000 NS

CERTIFIED MANUFACTURER: TREMCO
CERTIFIED PRODUCT: Sealant

CERTIFIED MODEL: TREMstop Fyre-Sil GG

LISTED MANUFACTURER: HILTI

LISTED PRODUCT: Sealant

LISTED MODEL: FS-ONE

LISTED MANUFACTURER: SPECIFIC TECHNOLOGIES INC (STI)

LISTED PRODUCT: Sealant
LISTED MODEL: SpecSeal® Series SSS

FILL, VOID OR CAVITY MATERIAL: Apply one of the above Certified or Listed products (sealants) into the recess of the packing material (Item 3A) a min. 1/2 in. depth from both sides of the floor/ceiling assembly (Item 1). Overlap the product (sealant) onto the floor/ceiling assembly (Item 1) and the ventilation duct (Item 2) a min. of 1 in.