

**Design Number UNI/PF 180-01
THROUGH-PENETRATION FIRESTOP SYSTEM
(HORIZONTAL THROUGH-PENETRATION)**

Unifrax I LLC
FyreWrap® Elite™ 1.5 Duct Insulation

ASTM E814
F-Rating – 3 hours
T-Rating – 3 hours

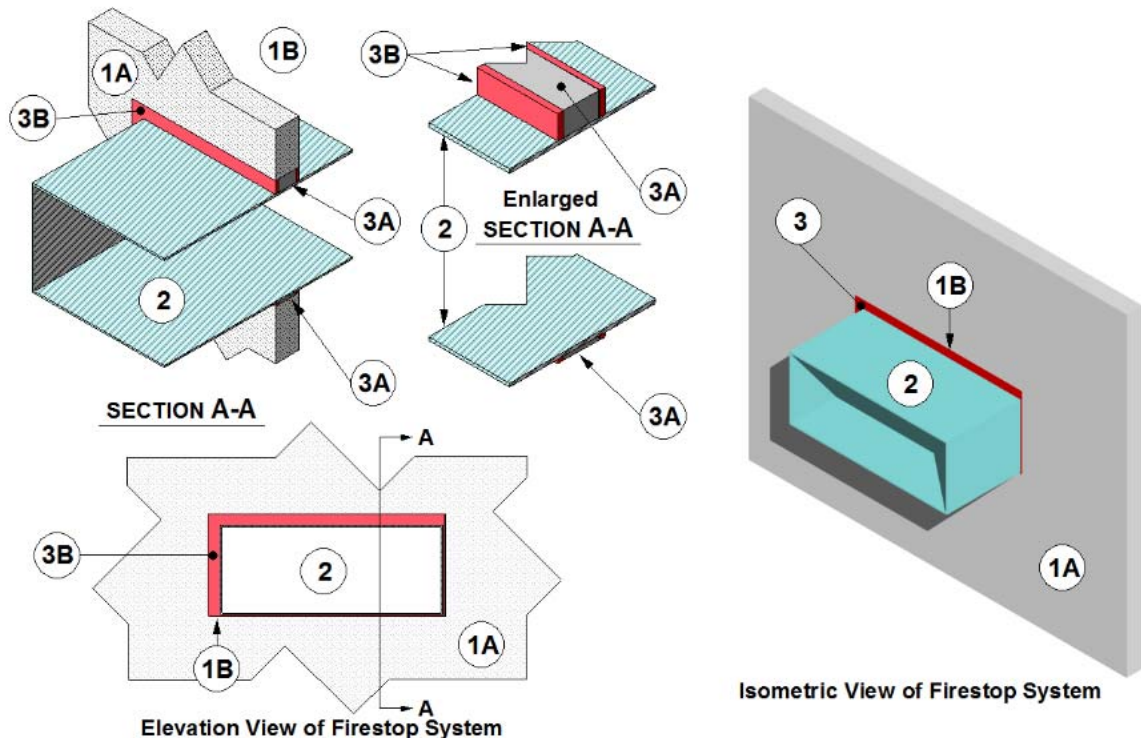


Figure 1 – Horizontal Through-Penetration Firestop System

1. WALL ASSEMBLY: Use a min. 3 hour fire resistance rated wall assembly.
 - A. Use nom. 8 in. solid CMU, or min. 5.7 in. thick normal weight or min. 4.4 in. thick lightweight (100 to 150 pcf) reinforced concrete or use any *Listed* 3 hour gypsum wall assembly, min. 6 in. thick, with min. 22 GA, 3-5/8 in. deep, steel C-studs covered with gypsum board on both sides.
 - B. Create an opening in the wall assembly compatible with the horizontal penetrating item dimensions and an annular space between min. 0.5 and max. 3 in. Max. opening 29 in. x 59 in. for max. ventilation duct (Item 1) dimensions and annular space.
2. VENTILATION DUCT: Use only min. 3 hour fire resistance rated ventilation duct described in Intertek Design Number UNI/DI 180-01.

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 wall 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 only the insulation cited in Intertek Design Number UNI/DI 180-01 under Item 2 to wrap the ventilation duct (Item 2).

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 wall assembly (Item 1) on both sides of the wall assembly (Item 1). Insulation wrapped around the ventilation duct must be installed to cover the entire annular space of the opening.

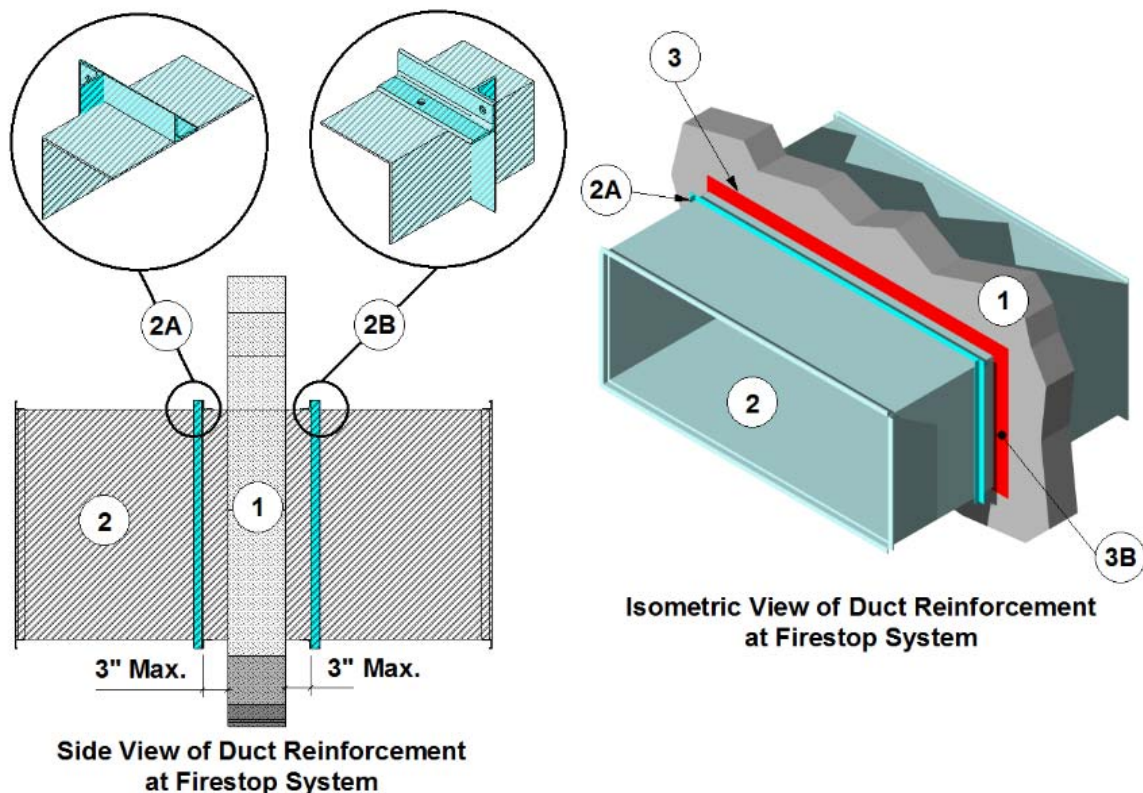


Figure 2 – Horizontal Ventilation Duct Reinforcement

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

A. CERTIFIED MANUFACTURER: Unifrax LLC

CERTIFIED PRODUCT: Duct Insulation

CERTIFIED MODEL: FyreWrap® Elite® 1.5

PACKING MATERIAL: Use only the insulation cited above, which is described in Intertek Design Number UNI/DI 180-01 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 surface of each side of the wall assembly (Item 1) to accommodate the depth of fill, void, or cavity material (Item 3B).

B. CERTIFIED MANUFACTURER: 3M

CERTIFIED PRODUCT: Sealant

**CERTIFIED MODEL: Fire Barrier™
1000 NS**

or

**CERTIFIED MANUFACTURER:
TREMCO**

CERTIFIED PRODUCT: Sealant

**CERTIFIED PRODUCT: TREMstop
Fyre-Sil GG**

or

CERTIFIED MANUFACTURER: HILTI

CERTIFIED PRODUCT: Sealant

CERTIFIED MODEL: FS-ONE

or

**LISTED MANUFACTURER: SPECIFIC
TECHNOLOGIES INC (STI)**

LISTED PRODUCT: Sealant

**LISTED MODEL: SpecSeal® Series
SSS**

FILL, VOID OR CAVITY MATERIAL:
Apply one of the cited 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 wall assembly (Item 1). Overlap the product (sealant) onto the wall assembly (Item 1) and the ventilation duct (Item 2) a min. of 1 in.