3M Company
Design No. 3MU/DI 60-03
Firestop System
3M™ Fire Barrier™ 615+
ASTM E2816-18b
Condition D – 60 minutes
ASTM E814-13a (2017)
Test Pressure Differential – 2.5 Pa (0.01 in. of water)
T- Rating 60 minutes; F-Rating 60 minutes

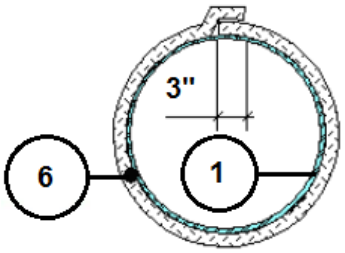


Figure 1. 3M™ Fire Barrier™ Duct Wrap 615+

1. **DUCT:** Reference Figure 1. Use SMACNA compliant ventilation duct for vertical installation and meeting the following requirements:
   - Steel Gauge: Minimum 26 GA
   - Shape: Round (straight seam or spiral seam)
   - Dimensions: Maximum 7 in. diameter.

   Rigidly support the duct in accordance with IMC, SMACNA or NFPA 90A requirements designed to carry the weight of the insulated duct under a fire load equivalent to a 60 minute exposure of the ASTM E119 time-temperature curve.

2. **SUPPORTING CONSTRUCTION:** Use minimum 60 minute fire resistance rated floor/ceiling assembly meeting the following minimum requirements:

   - Overall Floor Depth: Minimum 10-5/8 in.
   - Framing: Minimum 2 x 10 solid sawn wood joists
   - Ceiling Membrane: one layer, 5/8 in. thick gypsum board. See corresponding listed fire resistance rated designs for approved manufacturers and models.

3. **THROUGH-OPENING:** Refer to Figure 2. Create a rectangular through-opening in the supporting construction (Item 2) sized three inches greater in both dimensions than the corresponding outside duct (Item 1) dimensions. Frame the opening with minimum 2 x 10 solid sawn wood and matching the framing material size used in the supporting construction (Item 2). If resilient channels or furring channels are used in the listed supporting construction (Item 2), install additional resilient channels or furring channels along the perimeter of the framed opening. Position the uninsulated duct (Item 1) concentrically within the through-opening.

4. **PACKING MATERIAL:** Refer to Figure 2. Use nominal 1-1/2 in. thick, nominal 6 pcf, 3M™ Fire Barrier™ Duct Wrap 615+ core insulation as the firestop packing material.

   CERTIFIED MANUFACTURER: 3M Company

   CERTIFIED PRODUCT: Duct Insulation

   CERTIFIED MODEL: 3M™ Fire Barrier™ Duct Wrap 615+

   Pack nominal 1-1/2 in. thick, nominal 6 pcf, 3M™ Fire Barrier™ Duct Wrap 615+ core insulation into the annular space with fibers oriented parallel with the duct (Item 1) resulting in a minimum 50% compression based on nominal insulation thickness (e.g. pack two layers of nominal 1-1/2 in. thick core insulation into 1-1/2 in. annular space; pack additional insulation into corners as required to maintain required compression). Install the packing material the full depth of the supporting construction (Item 2). Recess the packing material 3/4 in. from the top of the supporting construction (Item 2).

5. **FILL, VOID OR CAVITY MATERIAL –**Apply one of the materials listed below, filling the 3/4 in. recess created with the packing material (Item 4):

   CERTIFIED MANUFACTURER: 3M Company

   CERTIFIED PRODUCT: Firestop Sealant

   CERTIFIED MODELS: 3M™ Fire Barrier™ IC 15WB+ or 3M™ Fire Barrier™ CP 25WB+

6. **CERTIFIED MANUFACTURER:** 3M Company

   CERTIFIED PRODUCT: Duct Insulation

   CERTIFIED MODEL: 3M™ Fire Barrier™ Duct Wrap 615+

   Install one layer of nominal 1-1/2 in. thick, nominal 6 pcf, 3M™ Fire Barrier™ Duct Wrap 615+ around the full length of the duct (Item 1) except where it passes through the supporting construction (Item 2). Use minimum 3 in. overlap joints. Secure the insulation with minimum 1/2 in. wide, minimum 15 mil thick stainless steel bands, maximum 12 in. oc. For transverse overlap joints, center the stainless steel band on the overlap and then position the next stainless steel band 4 in. oc and placed on the adjacent section of 3M™ Fire Barrier™ Duct Wrap 615+ duct insulation (Item 6). Tape all joints with 3M™ 1525CW FSK Facing Tape.

7. **FIRESTOP SUPPORT:** Refer to Figure 2. Use minimum 1-1/2 in. x 1-1/2 in. x 1/8 in. steel angles on opposite sides of the round duct (Item 1) and parallel with opposite sides of the through opening (Item 3). Extend the angles minimum 1-1/2 in. onto the supporting construction on each side. Fasten the angles to the supporting construction (Item 2) with minimum No. 10 screws of the appropriate type for the underlying construction; use one screw on each side. Fasten the angles to the duct (Item 1) with minimum No. 10 self-drilling hex-head or panhead steel screws. Use one screw on each side of the round duct (Item 1).

8. **FIRESTOP COLLAR:** Refer to Figure 2.

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Install a minimum 12 in. long, nominal 1-1/2 in. thick, nominal 6 pcf, 3M™ Fire Barrier™ Duct Wrap 615+ collar on the top side of the supporting construction (Item 2). Cut slits, 1-1/2 in. tall at the base of the collar in order to fit the collar over the steel angle firestop supports (Item 7). Secure the collar with minimum 1/2 in. wide, minimum 15 mil thick stainless steel bands, positioned 2 in. from the bottom of the collar and 2-in. from the top of the collar. Tape the top of the collar to the duct insulation (Item 6) with 3M™ 1525CW FSK Facing Tape.

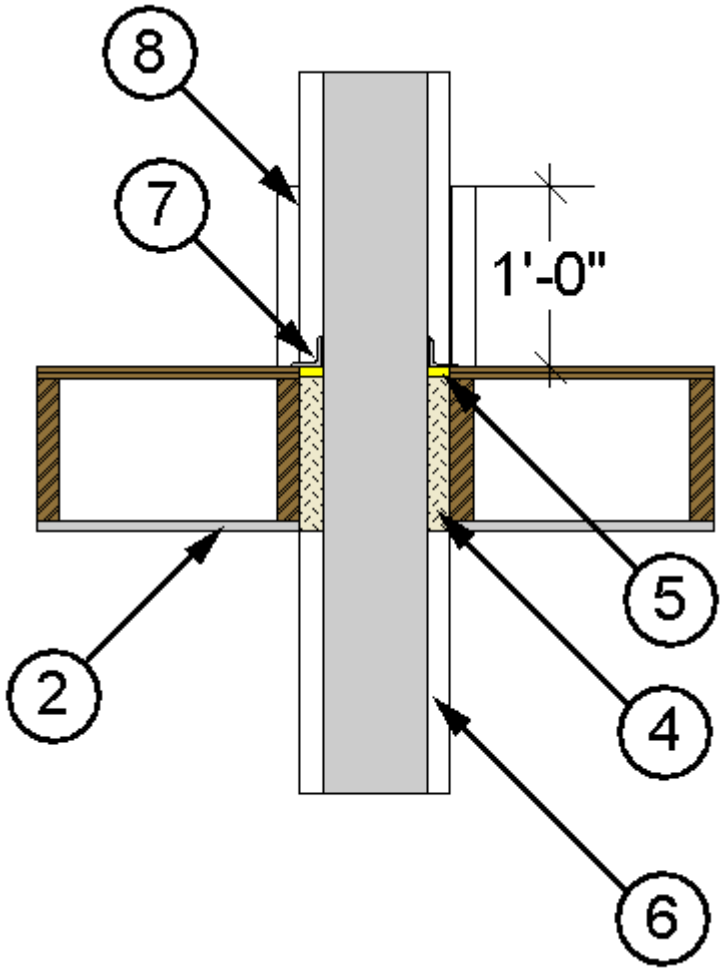


Figure 2. Firestop Details