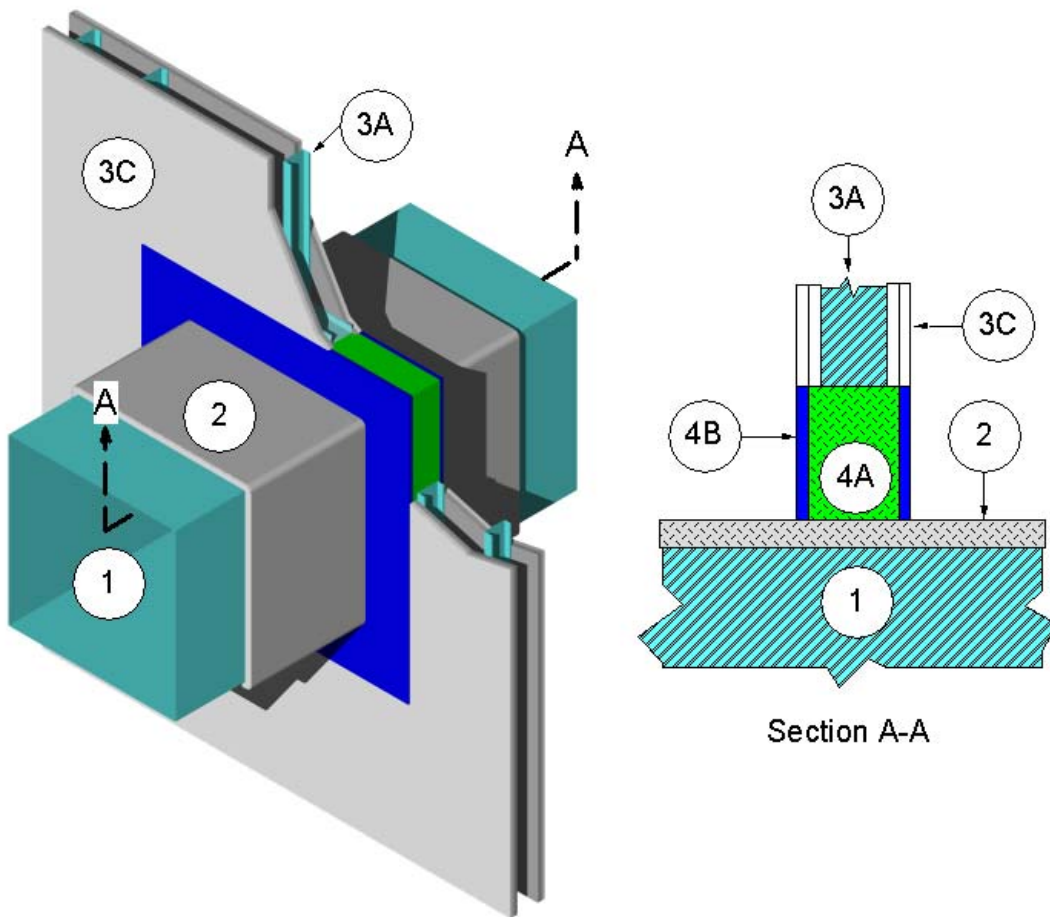

Design No. 3MU/PH 120-14
OPL Design Number: FS 559 W
PENETRATION FIRESTOP THROUGH WALL ASSEMBLY
3M Company
3M Fire Barrier™ Duct Wrap 15A or 20A
3M Fire Barrier™ Duct Wrap 615
3M Fire Barrier™ 2000+ Silicone Joint Sealant
3M Fire Barrier™ Water Tight 1000-NS Silicone Joint Sealant
ASTM E 814-06
T Rating – 2 hr
F Rating – 2 hr



1. PENETRATING ITEM: Rectangular or round steel duct constructed of minimum 24 GA sheet steel with maximum 720 inch² area with a maximum 30 inch dimension or 30 inch diameter.

2. CERTIFIED MANUFACTURER: 3M Company
CERTIFIED PRODUCT: 3M Fire Barrier™ Duct Wrap
MODEL: 15A, 20A

MODEL: 615: Option for FRD Ventilation Ducts (Old Designation VAD)

INSULATION: Before the packing material (Item 4A) and fill material (Item 4B) of the penetration firestop (Item 4) is installed, protect the penetrating item (Item 1) with at least one layer of minimum 24-inch-wide certified insulation. Minimum 8 pcf density required for grease duct applications. Wrap penetrating item (Item 1) with a one layer of certified insulation, overlap the ends of certified insulation and secure certified insulation to penetrating item (Item 1) in accord with any 2-hour-rated 3M FRD design listing.

3. WALL ASSEMBLY: Symmetrical two-hour-rated gypsum wall assembly constructed of the following:
 - A. Steel Studs – Minimum 25 GA galvanized steel studs measuring 3- $\frac{5}{8}$ inches wide with 1- $\frac{1}{4}$ -inch legs spaced maximum 24 inches on center (O.C.). Attach studs with minimum #6 x $\frac{3}{8}$ -inch steel stud framing screws to floor and ceiling tracks.
 - B. Tracks – Channel U-shaped floor and ceiling runners measuring $\frac{1}{2}$ inch deep by 3- $\frac{5}{8}$ inches wide, which are secured to floor and ceiling with 1-inch-long fasteners suitable for the mounting to substrate and spaced maximum 18 inches O.C.
 - C. Gypsum Board – Cover studs and runners with two layers of $\frac{5}{8}$ -inch-thick, Type X gypsum board on each face. Fasten base layer of gypsum board to steel studs with #6 1- $\frac{1}{8}$ -inch-long bugle head phillips drywall screws spaced maximum 12 inches O.C. Fasten face layer of gypsum board with #6, 1- $\frac{5}{8}$ -inch-long bugle phillips drywall screws spaced maximum 8 inches O.C. Apply vinyl or casein, dry or premixed joint compound to face layers of gypsum board in two coats to all exposed screw heads and gypsum board joints. Embed minimum 2-inch-wide paper, plastic or fiberglass tape in first layer of joint compound over joints in gypsum board. Minimum wall assembly thickness of 6 inches

measured from face layer of gypsum board to opposite face layer of gypsum board.

- D. Opening – Create an opening in the wall assembly having a cross-sectional area of maximum 1118 inch² and a maximum dimension of 35.5 inches. Frame opening with steel studs (Item 3A) and tracks (Item 3B). Position the penetrating item (Item 1) concentrically or eccentrically in the opening so that the annular space ranges from minimum 1 inch to maximum 3- $\frac{1}{2}$ inches.

4. PENETRATION FIRESTOP: Symmetrical penetration firestop constructed of the following components:

- A. CERTIFIED MANUFACTURER: 3M Company

CERTIFIED PRODUCT: 3M Fire Barrier™ Duct Wrap

MODEL: 15A, 20A, 615

PACKING MATERIAL: Fill the annular space with minimum 4-pcf mineral wool or certified insulation without the encapsulation (foil scrim). Cut the packing material into strips. Compress packing material nominally 25% and insert packing material into the annular space. Fill the entire annular space. Recess the surface of packing material nominally $\frac{5}{8}$ inches from both surfaces of the face layers of the gypsum board of the wall assembly (Item 3).

- B. CERTIFIED MANUFACTURER: 3M Company

CERTIFIED PRODUCT: 3M Fire Barrier™ Joint Sealant

MODEL: Water Tight 1000-NS Silicone or 2000+ Silicone

FILL, VOID OR CAVITY MATERIAL: Install minimum $\frac{5}{8}$ -inch depth of certified fill material into the recess over the packing material (Item 4A) on both sides of the wall assembly (Item 3). Screed certified fill material flush with the surface

of the wall assembly (Item 3) on both sides.