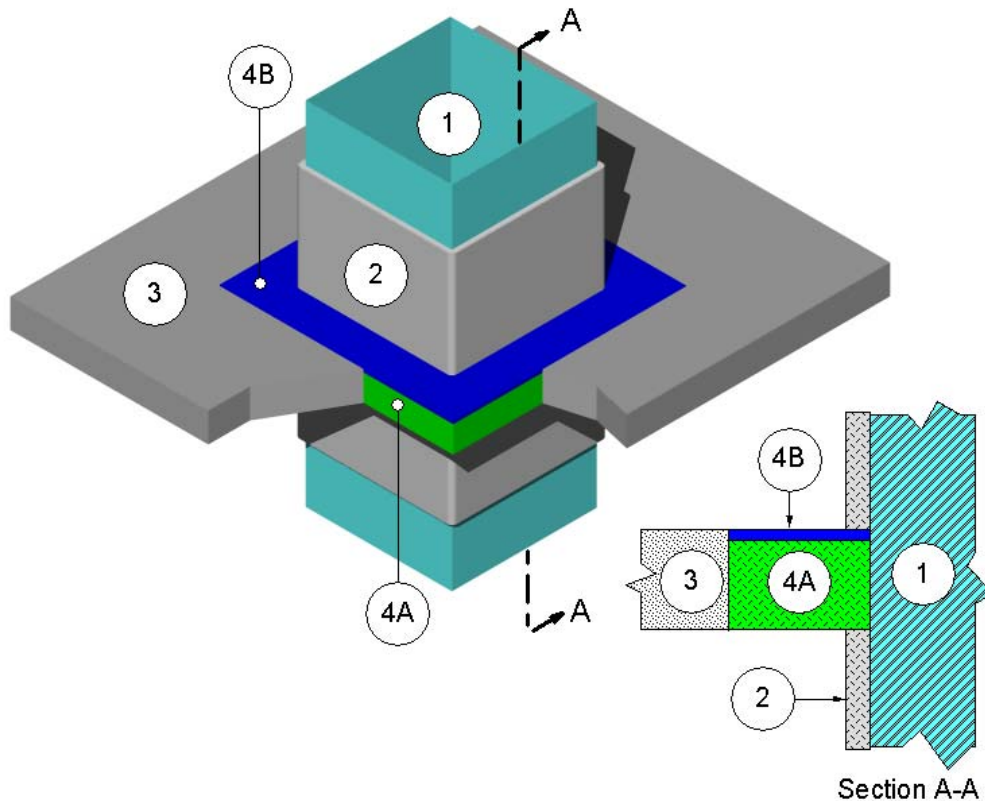

Design No. 3MU/PV 120-04
OPL Design Number: FS 561 F
PENETRATION FIRESTOP THROUGH FLOOR ASSEMBLY

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
3M Fire Barrier™ Water Tight 1003 SL Silicone Joint Sealant

ASTM E 814-06
T Rating – 2 hr
F Rating – 2 hr



1. PENETRATING ITEM: Rectangular or round minimum 24 GA steel duct constructed of sheet steel with a 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, 615

INSULATION: After the packing material (Item 4A) and fill material (Item 4B) of the penetration firestop (Item 4) are installed, wrap 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. 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. Abut certified insulation to penetration firestop (Item 4) on each side of floor assembly (Item 3).

3. FLOOR ASSEMBLY: Symmetrical two-hour-rated solid concrete floor assembly made from reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Constructed of one of the following:

A. Solid Concrete – Minimum concrete thickness measured from exposed face to exposed face using one of the following:

1. lightweight concrete is 3.6 inches;
2. sand-lightweight concrete is 3.8 inches;
3. carbonate aggregate concrete is 4.6 inches; and
4. siliceous aggregate concrete is 5.0 inches.

B. Opening – Create an opening in the floor assembly. Position the penetrating item (Item 1) concentrically or eccentrically in the opening so that the annular space ranges from minimum 1 inch to maximum 2 inches. The opening shall have a cross-sectional area of maximum 891 inch² and a maximum dimension of 33 inches for penetrating item (Item 1).

4. PENETRATION FIRESTOP:
Asymmetrical 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 $\frac{3}{8}$ inches from top surface of the floor assembly (Item 3).

B. CERTIFIED MANUFACTURER: 3M Company

CERTIFIED PRODUCT: 3M Fire Barrier™ Joint Sealant

MODEL: Water Tight 1000-NS Silicone or 2000+ Silicone or 1003 SL Silicone

FILL, VOID OR CAVITY MATERIAL: Install minimum $\frac{3}{8}$ -inch depth of certified fill material into the recess over the packing material (Item 4A) on top side of the floor assembly (Item 3). Screed certified fill material flush with the surface of the floor assembly (Item 3). Overlap the fill material onto face of floor assembly (Item 3) a minimum of $\frac{1}{4}$ inch.