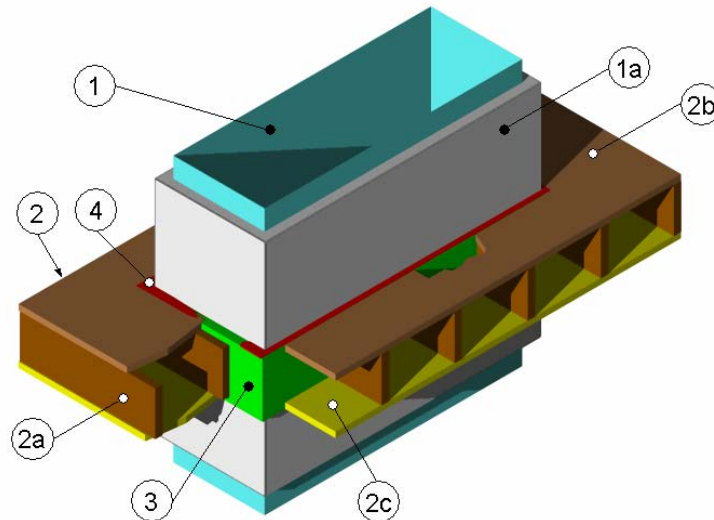


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**Design No. 3MU/PV 60-03**

**3M Company**  
**3M™ Fire Barrier™ 2000+ Silicone Sealant**  
**3M™ Fire Barrier™ 1003 S/L Silicone Sealant**  
**3M™ Fire Barrier™ 1000 N/S Silicone Sealant**  
**ASTM E 814-06**  
**T Rating – 1 hr**  
**F-Rating – 1 hr**  
**ISO 6944:1985**  
**Type - Duct A**  
**Stability - 1 hr**  
**Insulation - 1 hr**  
**Integrity - 1 hr**

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1. **PENETRATING ITEM** – Use a round or rectangular steel duct constructed of minimum 24 GA sheet steel in accordance with an Intertek FRD or VAD Design Listing with maximum area of 720 square inches and maximum dimension of 30 inches (maximum rectangular dimensions: 24 x 30 inches, or maximum round dimension: 30 inch diameter).
  - a. Protect penetrating item with one or more layers of 3M Fire Barrier™ Duct Wrap 15A or 20 A applied in accordance with the Intertek FRD or VAD Design Listing.
2. **FLOOR ASSEMBLY** – Install penetrating item (Item 1) through a framed hole created in an ASTM E 119 (UL 263 or NFPA 251) one-hour fire-rated floor assembly having the following components as part of its construction:
  - a. Minimum 2 x 10 wood joists spaced a maximum 18-1/2 inches on center (OC).
  - b. Minimum 3/4-inch thick plywood attached to the top of wood joists.

- c. Minimum one layer of 5/8-inch thick, Type X, gypsum wallboard attached to the bottom of wood joists.
  - d. Create an opening through the floor assembly to accommodate the protected penetrating item (Item 1) and the conditions of Item 2e. When the hole penetrates the joists additional reinforcement is required to maintain the floor assembly's strength at that location.
  - e. Position the penetrating item (Item 1) concentrically or eccentrically in the opening so that the annular space ranges from minimum 1 inch on one side to maximum 2-1/2 inches on the opposite side.
3. **PACKING MATERIAL** – Fill the annular space between the penetrating item (Item 1) and floor assembly (Item 2) with scrap 3M Fire Barrier Duct Wrap 15A or 20A without its foil scrim, or 4 pcf Intertek certified mineral wool. Cut the packing material

into strips. Compress width of packing material installed into annular space a minimum of 25%. Insert packing material into the opening to completely fill the entire annular space and recess the top surface of packing material a minimum 3/4-inch from the top surface of the floor assembly (Item 1), to accommodate the fill, void or cavity material (Item 4).

4. **FILL, VOID, AND CAVITY MATERIAL** – Apply a minimum 3/4-inch depth of sealant over the recess created by the packing material (Item 3). Level sealant flush with the top of the floor assembly (Item 1).

**Certified Material:**

**3M Company –**

**3M™ Fire Barrier™ 2000+ Silicone**

**Sealant**

**3M™ Fire Barrier™ 1003 S/L**

**Silicone Sealant**

**3M™ Fire Barrier™ 1000 N/S**

**Silicone Sealant**