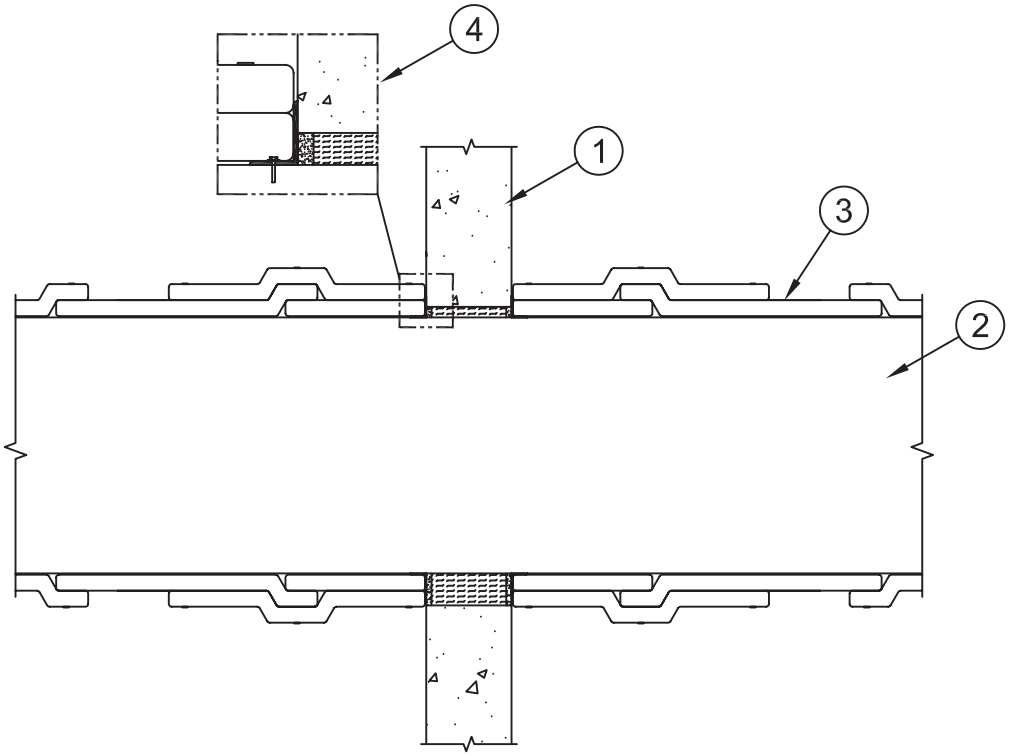
System No. W-J-7104

July 24, 2009
F Rating – 2 Hr
T Rating – 2 Hr



1. **Wall Assembly** – Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max size of opening is 17.3 sq ft (1.61 m2) with a max width of 89 in. (2.26 m).

   See **Concrete Blocks** (CAZT) category in Fire Resistance Directory for names of manufacturers.
2. **Steel Air Duct** – Max 85 by 24 in. (2160 by 610 mm) by 0.030 in. (0.76 mm) thick (22 GA) galvanized steel duct to be installed either concentrically or eccentrically within the opening. The annular space shall be min 1 in. (25 mm) to max 3 in. (76 mm) within the framed opening. The duct shall be constructed and reinforced in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible. Steel duct to be rigidly supported on both sides of wall assembly.
3. **Duct Wrap Materials*** – Nom 1-1/2 in. (38 mm) thick ceramic fiber batt or blanket (min 6 pcf or 96 kg/m^3) jacketed on the outside with a foil-scrim-poly facing, installed in a telescope, checkerboard or butt-joint-and-collar pattern with 3 in. (76 mm) transverse and longitudinal overlaps, in accordance with the requirements of Ventilation Assembly No. V-27. See Ventilation Duct Assemblies in Vol. 2 of the UL Fire Resistance Directory. Longitudinal and transverse joints sealed with aluminum foil tape.

   3M COMPANY
   3M FIRE PROTECTION PRODUCTS – 3M FireBarrier Duct Wrap 615 or 3M FireBarrier Duct Wrap 615+
4. **Firestop System** – The firestop system shall consist of the following:
   A. **Packing Material** – Min 4-3/4 (121 mm) thickness of min 6 pcf (96 kg/m^3) duct insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

      3M COMPANY
      3M FIRE PROTECTION PRODUCTS – 3M FireBarrier Duct Wrap 615 or 3M FireBarrier Duct Wrap 615+

   B. **Fill Void or Cavity Material*** – **Sealant** – Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.

      3M COMPANY
      3M FIRE PROTECTION PRODUCTS – 3M FB-1000 NS

   C. **Steel Retaining Angles** – Stiffening angle 1-1/2 by 2 by 1/8 in. (38 by 52 by 3.2 mm), applied around the perimeter of the duct with the 2 in. (52 mm) leg against the sealant (Item 4B above). Angles attached to steel duct on both sides of wall with min No. 10 steel sheet metal screws spaced a max of 1 in. (25 mm) from each end of steel duct and spaced a max of 6 in. (152 mm) OC.

*Bearing the UL Classification Mark

This material was extracted and drawn by 3M Fire Protection Products from the 2009 edition of the UL Fire Resistance Directory.