

- PENETRATING ITEM: A liquidtight duct system with horizontal shafts constructed of min. 16 GA (0.028 in.) sheet steel with max. 576-in. area and max. 24-in. width (max. dim. 24-in. x max. 24-in.) and as detailed in Design GD 523 F.
- FLOOR/CEILING ASSEMBLY: The twohour fire-rated floor/ceiling assembly consists of min. 4-1/2 in. thick normal weight (100-150 pcf) reinforced concrete. Create an opening in the wall assembly measuring max. 30 long x 31-in. wide. Position the duct assembly eccentrically in the opening so that the annular space ranges from min. 7/8 in. on one side to max. 3 in. on the other.
- 3. FILL, VOID OR CAVITY MATERIAL: Min. 1/4-in. depth of sealant fill material is to be applied to the recess around the top surface of

the floor through-penetration opening. The sealant material overlapped the concrete and the insulation on the duct nom. 3/4-in.

## Listed Manufacturer:

## Johns Manville Corporation

Firestopping

Firestopping Sealant

Firetemp® SI

Firetemp® SE

Firetemp® CI

 PACKING MATERIAL: Fill the annular space with leftover 1-1/2 in. thick, 8pcf ceramic fiber blanket. Cut the blanket into 9in strips. Then fold the blanket into a "U" shape and compress it approximately 37% and insert it into the opening to fill the entire annular space. Recess the surface of packing material a min. 1/4 in. from the top surface of the floor, as required to accommodate the necessary depth of caulk fill material. Listed Manufacturer:

Unifrax Corporation

Applied Fireproofing

Insulation Blanket (Soluble Fiber)

FyreWrap® 1.5 Duct Insulation