Design No. FS 567 W

FIRE PENETRATION SEAL

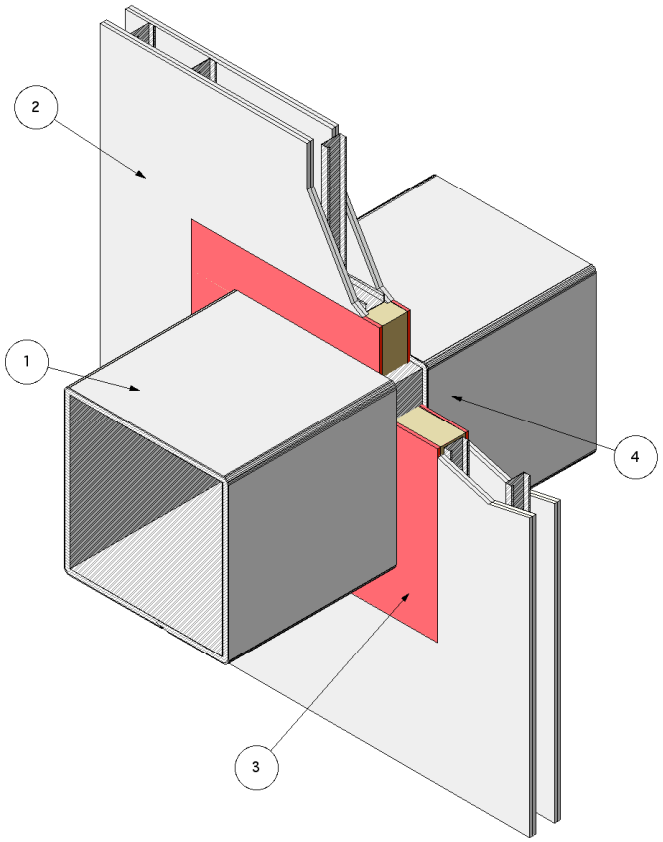
Penetrating Item Steel Duct

ISO 6944

Integrity, Stability, Insulation – 2 Hr.

T-Rating - 2 hr

F-Rating - 2 hr



1. PENETRATING ITEM: An airtight round or rectangular steel duct system constructed with the limiting specifications in the table below. Protect duct with two layers of 3M Fire Barrier Duct Wrap 15A or 20A as detailed in systems VAD 529 F, VAD 530 F, VAD 531 F, or VAD 542 F. The insulation abutts the firestop system (3&4) on both sides of the wall.
2. GYPSUM WALL ASSEMBLY: A two-hour rated wall assembly constructed of the following:

A. Framing: 25 GA galvanized steel studs spaced 18-1/2 in. o.c. measuring 3-5/8 in. wide with 1-1/4-in. legs. Studs attached with min. #6 x 3/8-in. steel stud framing screws to channel shaped floor and ceiling runners measuring 1/2-in. deep by 3-5/8-in wide, which are secured to floor and ceiling with 1-in. long fasteners, suitable for the mounting substrate, spaced max. 18-in. o.c.

B. Gypsum Wallboard: Studs and runners covered with two layers of 5/8 in. thick, Type X gypsum wallboard on each face. The base layer of gypsum wallboard fastened to steel studs with #6 1-1/8 in. bugle head phillips drywall screws spaced 12 in. o.c. The face layer of gypsum wallboard fastened with #6, 1-5/8 in. long bugle phillips drywall screws spaced 8 in. o.c. Joint Tape and Compound - vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wallboard in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2 in. wide paper, plastic, or fiberglass tape is embedded in first layer of compound over joints in gypsum wallboard. A min. wall depth of 6 in. is created from face layer of gypsum wallboard to face layer of gypsum wallboard.

C. Opening: Create an opening in the wall assembly in accordance with the applicable specifications in the table below. Frame the opening with steel studs or runners described in 2A. Secure the framing material with min. #6 x 3/8-in. steel stud framing screws. Position the duct assembly concentrically or eccentrically in the opening so that the annular space ranges from min. 1 in. on one side to max. 3-1/2 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 over the packing material (4) on both sides of the wall through-penetration opening. The fill material is in direct contact with the steel duct or the insulation. The sealant material is overlapped onto the wall a nom. 1/4-in.

Listed Manufacturer:

3M -

Firestopping

Firestopping Sealants

3M Fire Barrier™ CP 25WB+ Caulk

4. PACKING MATERIAL: Fill the annular space with scrap 3M Fire Barrier Duct Wrap 15A, 20A, or 4 pcf mineral wool**. Cut the mineral wool into strips. Then compress it approximately 50% and insert it into the opening to fill the entire annular space. Recess the packing material a min. 1/4 in. from both sides of the wall as required to accommodate the necessary depth of caulk fill material. (** Listed with Omega Point Laboratories)

Listed Manufacturer:

3M -

Insulation

Mineral Wool Blanket

3M Fire Barrier Duct Wrap 15A

3M Fire Barrier Duct Wrap 20A

Max. Duct Area (in^2)	Max. Duct Dimension (in)	Min. Duct Gage Thickness	Max Area of Opening (in^2)	Max Dimension of Opening (in)
1440	60	20 GA	2432	70-1/2
400	40	24 GA	1035	50-1/2
144	12	26 GA	506	22-1/2