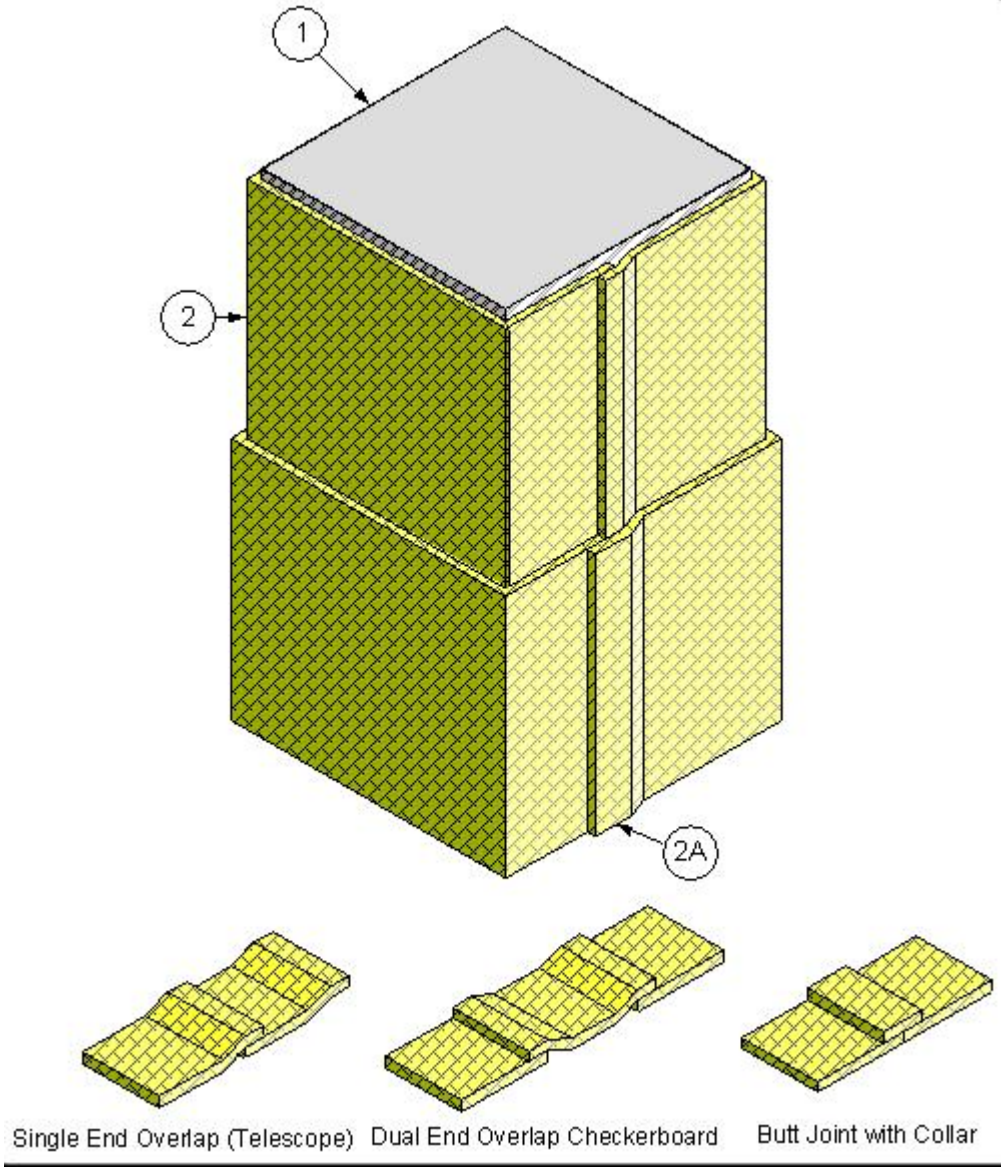
Design No. VAD 560 F

VENTILATION DUCT PROTECTION

ISO 6944 – Duct A

Integrity, Stability, Insulation – 2 hr



1. VENTILATION DUCT: An airtight duct system with vertical duct sections constructed of min. 26 GA (0.0179 in.) plain sheet steel with a max. 1296-in. area and a max. 54-in. width (max. 24-in. high x max. 54-in. wide). When required, equip the duct with a field fabricated access door. Construct the duct using sections affixed to each other with seams. Reinforce the duct to IMC or SMACNA requirements designed for a 2-in. WC under pressure and to carry the weight of the ventilation duct assembly covered with insulation under a fire

load equivalent to ISO 834 time-temperature curve. Rigidly support the duct in accordance with IMC or SMACNA requirements and as specified in Item 5. Protect the annular space around the duct passing through a fire rated barrier with the penetration firestop system as detailed in Design FS 599 F.

2. INSULATION: Use one layer of nom. 1-1/2-in. thick nom. 6-pcf blanket (Unifrax Corporation's FyreWrap EZ 1.5 Duct Insulation) made of calcium magnesium silica fibers. Wrap the steel duct with one layer of duct wrap. Use blanket that is fully encapsulated or single faced. Expose the faced side of fully encapsulated or single faced blanket to view on outer layer. All joints were overlapped a min of 3 in. (Item 2A). Completely cover and seal all cut edges with pressure-sensitive aluminum foil tape. Reference Product Section of this Directory for more details.

Listed Manufacturer:

Unifrax Corporation -

Applied Fireproofing

Insulation Blanket (Soluble Fiber)

FyreWrap EZ 1.5 Duct Insulation

3. FASTENERS: (Not Shown) Prior to installing the insulation blanket, weld with 5 in. long, 12 GA. copper coated mild steel impaling pins to duct. To provide adequate support, place pins on the vertical sides of the duct. Place pins in rows and columns across the duct a maximum of 3 in. from the vertical edges. Space the vertical columns of pins a max. 12 in. O.C. Space horizontal rows of pins a max. 10-1/2 in. O.C. At changes in directions, such as going from horizontal to vertical, locate pins to facilitate attachment of insulation blanket (Item 2) to duct. Pins shall be located at all overlaps to secure both pieces of the insulation blanket. Locate additional pins, if necessary, to attach insulation blanket at overlaps. After placing insulation blanket (Item 2) over pins, secure blanket to pins with 2-1/2 in. square or round galvanized steel speed clips. Turn down or cut off insulation blanket pins that extend beyond the outer blanket wrap layer.

4. SUPPORTS: (Not Shown) After the installation of the insulation blanket (Item 2) is complete, add a typical support system as required by IMC or SMACNA requirements that will support the load of the ventilation duct and the additional weight of the insulation system under a fire load. – OR – After the installation of the insulation system is complete, add a typical trapeze support system. Center insulated duct on trapeze hangers so that minimum 1-inch space exists between insulated duct and rods. Support hanger systems do not need to be wrapped. Attach threaded rods through concrete ceiling and secure using appropriate size washers and nuts or secure threaded rods using appropriate size steel drop in expansion type masonry anchors. Extend trapeze support angle at least 2-inches on each side of insulated duct and rods. When supporting smaller ducts, shorter length angles are permitted as long as other requirements are met. Place horizontal supports starting at the center of the vertical rise portion. Use minimum all-thread rod bolted to steel angle to assemble the trapeze supports. Space the all-thread rods a maximum 12-inches away from the edge of the insulated duct with clearance holes sized for rods drilled 2-inches from each end.

   Support Options: (1) Space supports on center so that the load does not exceed 200 lbs between supports. Trapeze supports use minimum 3/8-inches all-thread rods and secured with 3/8-inches hex nuts to minimum 1-1/2 x 1-1/2 x ¼-

inches steel angle for an insulated duct span (width between rods) of maximum 48 inches. (2)Space supports on center so that the load does not exceed 350 lbs between supports. Trapeze supports use minimum 5/8-inches all-thread rods and secured with 5/8-inches hex nuts to minimum 2-1/2 x 2-1/2 x ¼-inches steel angle for an insulated duct span (width between rods) of maximum 64 inches. (3) Space supports on center so that the load does not exceed 240 lbs between supports. Trapeze supports use minimum ½-inch all-thread rods and secured with ½-inches hex nuts to minimum 2 x 2 x ¼-inches steel angles a maximum insulated duct span of maximum 49 inches.