Design No. UNI/FRD 120-01

OPL Design VAD 537 F

VENTILATION DUCT PROTECTION

Unifrax I LLC

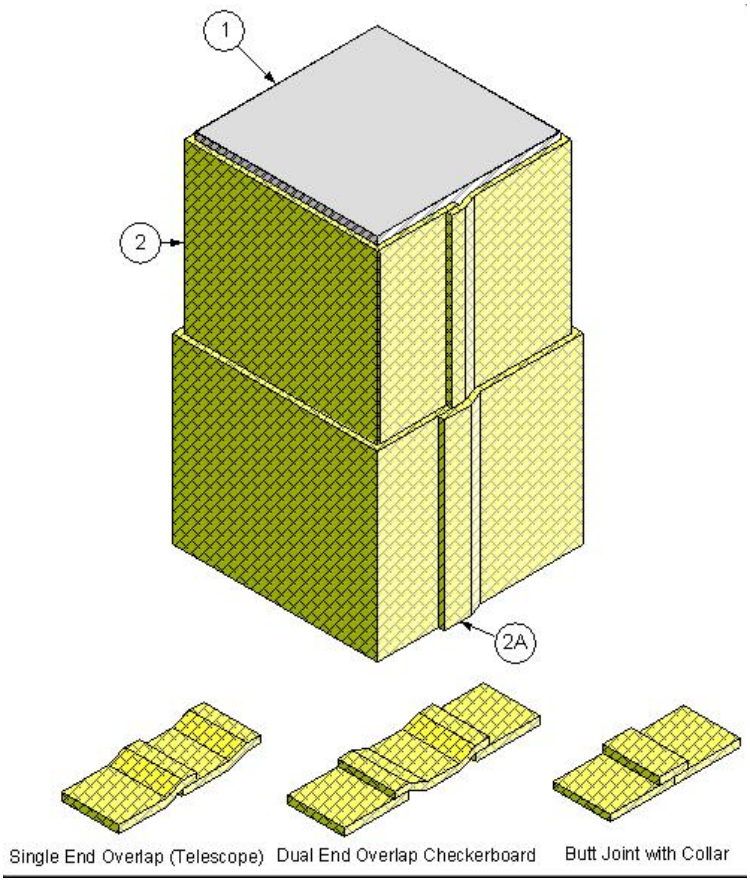
FyreWrap® Duct Insulations

Type - Duct A

Stability - 2 hr

Insulation - 2 hr

Integrity - 2 hr



1. VENTILATION DUCT: An airtight duct system with horizontal shafts constructed of min. 22 GA (0.028 in.) 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 underpressure 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 580 W.

2. CERTIFIED MANUFACTURER: Unifrax I LLC --

   CERTIFIED PRODUCT:Insulation Blanket (Soluble Fiber)

   MODEL: FyreWrap® Elite™ 1.5 Duct Insulation, 6pcf

   MODEL: FyreWrap® EZ 1.5 Duct Insulation, 6pcf

   MODEL: FyreWrap® 1.5 Duct Insulation, 8pcf

   MODEL: FyreWrap® MAX 2.0 Duct Insulation, 8pcf

INSULATION: Use one layer of nom. 1-1/2-in. thick 6 pcf (FyreWrap Elite 1.5 or FyreWrap EZ 1.5), nom. 8-pcf blanket (Fyrewrap 1.5) or one layer of nom. 2 in. thick 8pcf blanket (Fyrewrap MAX 2.0) made of soluble amorphous wool fibers or 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. (2A). All joints were overlapped a min of 3 in. All cut edges were covered with nom. 4-in. wide pressure-sensitive aluminum foil tape. Reference Product Section of the Directory for more details.

3. FASTENERS: Prior to installing the insulation, weld with 6-in. long, 12 GA. copper coated mild steel impaling pins to duct. After placing insulation (Item 2) over pins, secure blanket to pins with 1-1/2 in. square or round galvanized steel speed clips. Turn down or cut off insulation pins that extend beyond the outer blanket wrap layer. To provide adequate support, place pins on bottom of duct and on largest side of a vertical duct. Place pins in rows across the duct a minimum of 6 in. from the edge and spaced max. 12 in. O.C. Repeat rows of pins 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 (2) to duct. Locate pins 1-1/2 to 2 in. from duct edge and spaced in rows or spans max. 10-1/2 in. O.C. Locate pins to attach blanket at overlaps, which cannot be readily banded.

4. STRAPPING: After insulation (2) and pins (3) installed, use min. 1/2-in. wide by 0.015 in. thick stainless steel banding. Place banding 1-1/2 (1/2 in. from each transverse overlap and located mid point between the overlapped joints, max. 12 in. O.C. Tighten the banding but do not cut into the insulation. Then crimp steel clips over the ends of the banding to secure it.

5. SUPPORTS: "(Not Shown) After 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.