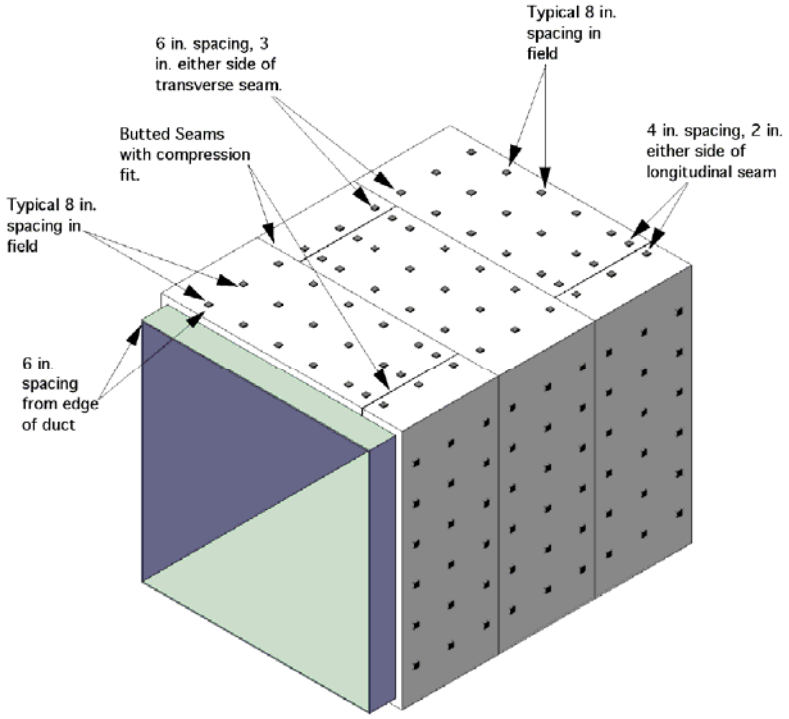
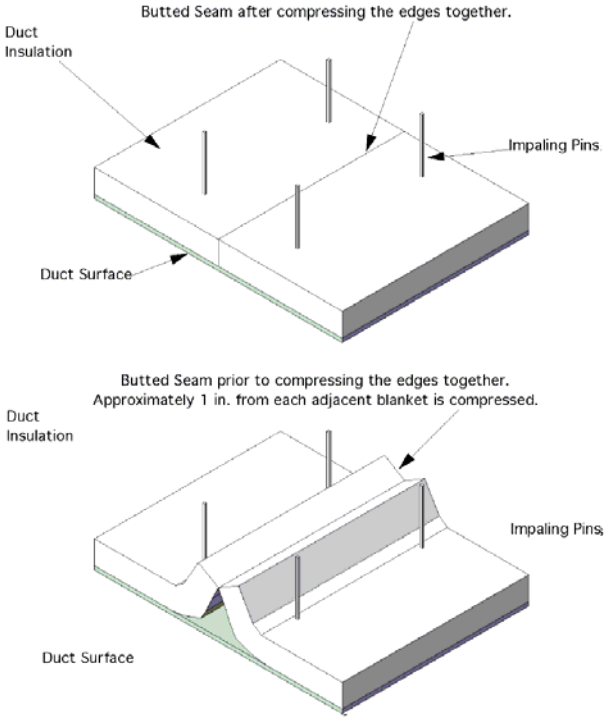
Design No. UNI/BI 30-01
GREASE DUCT PROTECTION
Unifrax I LLC
FyreWrap® Duct Insulation

UL 1978, Second Edition, Dated June 25, 2002,
Section 14 – Temperature Test-500°F (260° C) Flue Gases and
Section 15 – Abnormal Temperature Test





1. GREASE DUCT: A continuously welded, liquid-tight L-shaped duct system with horizontal and vertical duct sections constructed of 16 GA plain sheet steel or 18 GA stainless steel with a max. 2704-in. area and a max. 52-in. width (max. 52-in. high x max. 52-in. wide). When required, equip the duct with a clean-out access door. Construct the duct using sections affixed to each other with seams. Reinforce the duct to International Mechanical Code (IMC) or NFPA 96 requirements designed to carry the weight of the grease duct assembly covered with insulation under a fire load equivalent to the ASTM E 119 time-temperature curve. Duct to be rigidly supported in accordance with IMC or NFPA 96 requirements and as specified in Section 5 of this document.

2. CERTIFIED MANUFACTURER: Unifrax I LLC

   CERTIFIED PRODUCT: Insulation Blanket

   MODEL: FyreWrap® EZ 1.5 Duct Insulation (6 pcf)

3. INSULATION: Use one layer of nom. 1-1/2-in. thick, nom. 6-pcf blanket (Unifrax I LLC's FyreWrap® EZ 1.5 Duct Insulation) made of calcium magnesium silica fibers. Use insulation blanket fully encapsulated in metalized poly-scrim. Wrap the steel duct with one layer of duct wrap on pins using a compression butt joint. The

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compression butt joint is made by overlapping the blanket a minimum of two inches. Then raise up the ends of the blankets and align the edges. Push the edges down together so they are flat against the duct so that the ends of the two pieces are under compression and butted together (see drawing above). Do not use steel banding.

4. FASTENERS: (Not Shown) Use the following method to secure the insulation blanket.

   Weld min. 12 GA, minimum. 5-in. long, stainless steel insulation pins to the duct. Locate pins on all sides of the duct as indicated in the drawing above.

   Transitions: At changes in directions, such as going from horizontal to vertical, locate pins to facilitate the attachment of the blanket to the duct.

   Secure blanket to pins with 2-1/2 in. square or round galvanized steel speed clips.

5. ACCESS DOOR (*Not Shown*): Use a field fabricated grease duct access door as follows:

   After the duct is insulated, cut an opening in the insulation system 1-in. greater than the height and width of the access door. Then, cut an opening in the side of the duct 2-in. less in height and width than the access door. Weld four 4-in. x 1/4-in. all-thread rods to the duct, one at each corner of the duct opening. Cut a max. 12-in. x 12-in. 16 GA steel plate to be used as the access door. Drill holes in the door to match the rod pattern and seal the duct by overlapping the opening by 1-1/2-in. on all sides. Place a min. 1/2-in. thick ceramic fiber gasketing on the internal face of the door and place the door over the threaded rods. Weld four 5-in. long, 12 GA stainless steel or copper-coated steel insulation pins, spaced 7 in. to 8 in. on center, to the access door corners. Apply two layers of FyreWrap® EZ 1.5 Duct Insulation (6 pcf) over the access door. Cut the first layer 1-in. greater than the height and width of the access door and install it over the pins covering the door. There should be a compression fit between the access door insulation and the existing insulation. Cut the second layer of insulation 2-in. greater than the height and width of the access door. Repair the cut edges of the second layer with nominal 4-in. wide aluminum foil tape and install it over the pins. The second layer should cover the first layer with a 1-in. overlap around the perimeter. Secure blanket to pins with 2-1/2 in. square or round galvanized steel speed clips. Turn down or cut off insulation pins that extend beyond the outer blanket wrap layer. Secure the access door assembly by placing 3-in. diameter fender washers over the threaded rod and tightened down with wing nuts.

6. SUPPORTS: When the installation of the insulation system is complete, add a typical trapeze support system. Center insulated duct on trapeze hangers so that min. 1-in 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 at least 2-in. on each side of insulated duct and rods. When supporting smaller ducts, shorter length angles are permitted as long as other requirements are met. Horizontal supports for the max. 52 in x 52 in duct are a max. 120-in. O.C. starting at the center of the vertical rise portion. Use min. 1/2-in. all-thread rod bolted to 2 x 2 x 1/4-in. steel angle to assemble the trapeze supports. Space the all-thread rods a max. 12 in. away from the edge of the insulated duct with 1/2 in. clearance holes drilled 2 in. from each end.

   Support Options: (1) Space supports on center so that the load does not exceed 200 lbs between supports. Trapeze

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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.

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