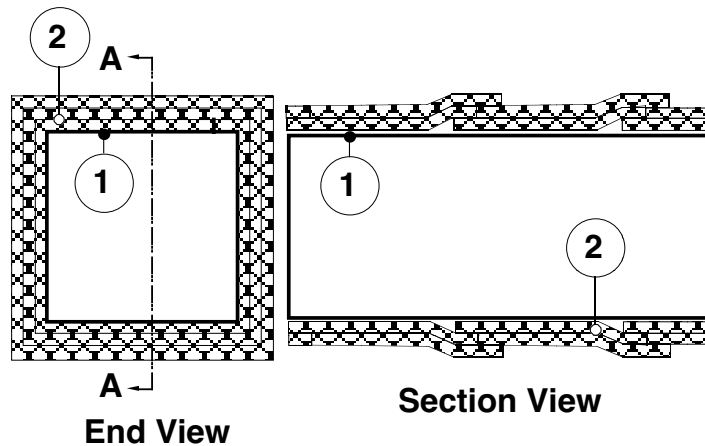


Design No. GD 509 F

**GREASE DUCT PROTECTION**

ICBO ES AC 101 Criteria

Section 5.4 Pass



1. GREASE DUCT: A continuously-welded, liquidtight duct system with both horizontal and vertical shafts constructed of 16 GA sheet steel with outside dimensions of max. 48-in. wide x max. 24-in. high.
2. INSULATION: The first layer, or interior wrap, of FireMaster® Duct Wrap 2x2™ shall be cut to a length sufficient to wrap completely around the perimeter of the duct, plus provide a min. overlap of 3 in. onto its starting end. Use min. 2 mil x 3-in. wide aluminum foil tape to seal cut edges of the blanket. Secure the first layer (or interior wrap) of FireMaster® Duct Wrap 2x2 blanket in place using min. 3/4-in. wide filament tape. Space the tape 1.5-in. from the edges of each blanket and midway between each edge, 10.5 in. Cut the next adjacent piece of the FireMaster® Duct Wrap 2x2™ blanket used in the first layer (or interior wrap) to completely wrap around the perimeter of the duct with enough excess to provide a min. overlap of 3 in. onto its starting end. A min. 3-in. circumferential overlap onto the previous adjacent wrap is required on both layers. Cut the second layer, or exterior wrap, of FireMaster® Duct Wrap 2x2 to sufficient length to wrap completely around the

perimeter of the first layer (or interior wrap) with sufficient excess to provide a min. overlap of 3 in. onto its starting end. Stagger the second layer (or exterior wrap) of the FireMaster® Duct Wrap 2x2, and if needed cut it, to ensure that the circumferential overlaps of the second layer (or exterior wrap) of blanket are a min. 10.5 in. from those of the interior layer. Use min. 2 mil x 3-in. wide aluminum foil tape to seal cut edges of the blanket. Position the second layer (or exterior wrap) such that the perimeter overlap joints are spaced a min. 12 in. from those of the first layer (or interior wrap). Reference Product Section of this Directory for more details.

**Listed Manufacturer:**

Thermal Ceramics Inc.--

Applied Fireproofing

Ceramic Blanket

FireMaster® Duct Wrap 2x2™

3. PINS: Not shown. Required for installation. For duct widths greater than or equal to 24-in., weld min. 10 GA, 5 in. to 7-in. long, steel insulation pins. Space pins in columns max. 12-in. apart. Position pins 6 to 12 in. from each edge and min. 10-1/2-in. o.c. along the

bottom horizontal and outside vertical duct sides to prevent blanket sag. Pins are required a max. 1 in. from the end of a duct and max. 1 in. from any corner (edge of a 90° bend). End and corner pins spaced max. 6-in. o.c. The blanket is locked into place over the pins with minimum 1.5 in. x 1.5-in. square, or 1.5-in. diameter round, galvanized steel, speed clips or cup head pins. Insulation pins that extend beyond the outer blanket wrap layer shall be turned down to eliminate sharp edges.

4. STRAPPING: Not shown. If needed, use of filament tape as a temporary hold prior to banding to ease installation is permitted. Secure the second layer (or exterior wrap) of FireMaster® Duct Wrap 2x2 in place using 1/2 in. to 3/4-in. wide x .015-in. thick carbon steel banding material. Place the bands a max. 1.5 in. from each blanket edge and midway between edges (10.5-in. o.c.). Tension the banding material to hold the FireMaster® Duct Wrap 2x2 in place without causing any cutting or damage to the blanket or duct.
5. ACCESS DOOR: (Not shown) Equip all access ports in the duct with a perimeter reinforcement frame. Cut the blanket around the access door with a knife to create 1-in. step joints around the perimeter of the door opening. (Example: Consider an access port with a 9 x 9-in. opening. Cut the first layer attached to the duct to a size of 12 x 12 in. to provide a min. 1-1/2-in overlap of the access port cover plate around the perimeter. Cut the second layer attached to the first layer of blanket to a size of 14 x 14 in. to provide a min. 1-in overlap around the perimeter.) Weld four pieces of min. 1/4-in. diameter, 5 in. to 7-in. long, threaded rods to the corners of the perimeter reinforcement frame of the access port. Cut an access port cover plate from 16 GA. sheet steel so that it overlaps the access port opening a min. of 1-1/2 in. on all sides. (Example: an access port which measures 9 in. x 9 in. is covered with a 12 in. x 12 in. access port cover plate.) Drill holes in

the access port cover plate to match the rods attached to the perimeter reinforcement frame. Then place 5 in. to 7-in. long hollow steel tubing over the threaded rods to act as protection “sleeves” for the FireMaster® Duct Wrap 2x2 installation. Weld four 10 GA, 7 to 8-in. long, steel insulation pins to the access port cover plate for blanket installation. Cut a piece of FireMaster® Duct Wrap 2x2 to overlap the opening cut in the first layer of FireMaster® Duct Wrap 2x2 by a min. 1 in. Center and impale the cut piece of FireMaster® Duct Wrap 2x2 over the pins and sleeves. Cut a second piece of FireMaster® Duct Wrap 2x2 to overlap the opening in the second layer of FireMaster® Duct Wrap 2x2 a min. 1 in. Center the cut piece of FireMaster® Duct Wrap 2x2 and impale it onto the pins and sleeves. Cut a third piece of FireMaster® Duct Wrap 2x2 to overlap a min. 1 in. the opening in the second layer of FireMaster® Duct Wrap 2x2 attached to the duct. Center the cut piece of FireMaster® Duct Wrap 2x2 and impale it onto the pins and sleeves. Place a compatible wing nut onto each stud and securely tighten to the torque rating of the threaded stud. Lock the blanket layers in place with a min. 1.5 x 1.5-in. square, or 1.5-in. diameter round, speed clips. Insulation pins that extend beyond the outer FireMaster® Duct Wrap 2x2 shall be turned down to avoid sharp edges on the door. Apply access door labels to all access clean-out doors.

6. SUPPORTS: (Not shown) After the insulation of the FireMaster® Duct Wrap 2x2 system is complete, add a typical trapeze support system with horizontal supports a min. 96-in. o.c., starting at the center of the vertical rise portion. Horizontal supports consist of hanger rods and angle irons. Lift until the duct weight is supported by the tubing. Note: Support hanger systems do not need to be wrapped provided the hanger rods are at least a min. of 3/8-in. diameter and the angle iron is a minimum of 1.5 in. x 1.5 in. x 1/8 in.