



PERFORMANCE SPECIFICATION

15230 (230700)

Exterior Duct Insulation

Part 1 – GENERAL

- A.** Materials shall be stored on site in a dry environment. Only dry insulation materials shall be installed.
- B.** Material shall be stored in such a way as to prevent breakage of or damage to the insulation panel system.
- C.** Install exterior insulation system in accordance with manufacturer's guidelines.
- D.** Provide adequate field supervision to assure proper field installation.

1.1 Scope

- A.** This specification includes removal of existing insulation, new material fabrication and installation methods for an interlocking four-piece insulation panel system utilized for exterior ductwork applications.

1.2 Submittals

- A.** Shop Drawings: Provide detailed shop drawings for approval.
- B.** Samples: Submit product samples for approval.

Part 2 – PRODUCTS

2.0 System

- A.** Exterior duct system shall be Techna-Duc system by PTM Manufacturing LLC. Newark, DE 19713; 302-455-9733 or approved equal.

2.1 Outdoor Ductwork Insulation

- A.** Material: Insulation material applied shall be a glass reinforced polyisocyanurate foam insulation encased in 1.25 mil aluminum foil.

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- B.** Thickness: Insulation material shall be composed of a laminated 1 ½” and ½” polyisocyanurate sheets totaling a finish of 2” thick; a minimum of ½” thickness required to cover duct supports and connection flanges (System R-14 to R-16 required).

Note: Polyisocyanurate of this required thickness does not meet the 25/20 fire code standards and should not be used for interior applications without proper approval from site fire safety personnel.

2.2 Weather Barrier

- A.** Weather barrier shall be fabricated of mill finished embossed aluminum sheeting, 0.032” in thickness. Exposed seams to be covered with 1” butyl and a 3” embossed aluminum beaded bands, secured with #10 self tapping, stainless screws with weather seal washers.

2.3 Vapor Barrier

- A.** For purposes of sealing longitudinal and circumferential joints from vapor migration, a non-setting vapor barrier bedding compound joint sealant similar to Childers CP-70 shall be utilized.

2.4 Caulking Compound

- A.** At weather barrier abutment locations, an industrial grade RTV silicone caulk shall be utilized, where applicable.

2.5 Putty/Butyl Caulk

- A.** Seams exposed to the weather shall be covered and sealed with a 1” wide by 1/8” thick butyl compound.

2.6 Screws

- A.** All screws utilized to fasten panel system together shall be #10 x 1/2” self-tapping, stainless steel, weather seal washer screws.

2.7 Contact Cement

- A.** Contact cement or 2-sided adhesive tape shall be utilized for laminating insulation material to the weather barrier sheeting.

2.8 Tape

- A. Foil tape used for sealing the insulation edges shall be a minimum thickness of 1.25 mil.

Part- 3 EXECUTION

3.0 Fabrication

- A. Sizing: Panel system shall be sized to provide a top and side panel overlap equal to the thickness of the insulation being applied.

3.1 Lamination

- A. Insulation shall be laminated to the weather barrier and sized to allow for sufficient overlap as indicated in section 2.1 above. Insulation shall be adhered utilizing appropriate contact method.

3.2 Insulation Joints

- A. Each panel will be constructed so that all vertical and horizontal insulation seams will have an interlocking and overlapping shiplap style joint to provide a thermal seal and allow for no direct heat transmission. The overlap shall be a minimum of 1/2" thick material.

3.3 Shop Fabrication

- A. Where feasible all general fabrication shall be performed in the shop and be based off of approved project drawing or direct field measurements.

3.4 Field Fabrication

- A. Field fabrication should be limited to routing and sealing of the insulation panels to allow for duct angle, supports, gauges or other duct related necessities.
- B. All routed areas shall be resealed with appropriate foil faced cast tape. No insulation material shall be exposed to the environment.

3.5 Installation

- A. Interlocking panel system shall be fitted into place on the rectangular ductwork. Prior to fitting, a minimum of a 3/8" bead of joint sealant shall be applied at each joint to serve as a vapor barrier.
- B. Material shall be fitted so that the vapor barrier seal is continuous and does not allow for water vapor infiltration.
- C. Once fitted, the panel system shall be fastened together with #10 self-tapping, stainless steel, and vapor seal screws on a maximum of 12" on center. For duct wider than 48", a bottom fastener should be utilized.

3.6 Weather Proofing

- A. At all circumferential joints, a 1" wide by 1/8" thick butyl compound putty shall be rolled onto the joint using a laminate roller sized to overlap the tape.
- B. The butyl compound shall be covered with a 3" wide embossed aluminum beaded band fabricated from the same metal as the jacketing material. All seams of the aluminum cap shall be sealed with a 3/8" bead of RTV caulk, colored to match the panel system and screwed in place with #10 s.s. screws with weather sealed washers placed on 6" centers.

3.7 Existing Duct, Supports, and Access Doors.

- A. Except duct work penetrating the roof; keep all existing duct and supports. Repair and secure the joints and base before installing new insulation
- B. Keep existing Duct access doors and cover with removable Techna-Duc inserts over access door.

Note: All Specifications and material are subject to change as new and better products are utilized without notice.