

#### A. SuperDuct RC Air Duct Systems

1. The contractor shall furnish SuperDuct RC Air Duct fabricated by a Johns Manville Qualified Fabricator or shall be a Johns Manville Qualified Contractor (Johns Manville Factory-Qualified Programs). Fabrication shall be in accordance with the following provisions.
2. The contractor shall furnish ductwork fabricated from any or all of the following material(s):
  - 1" (25 mm) SuperDuct RC Type 475;
  - 1½" (38 mm) SuperDuct RC Type 800;
  - 2" (51 mm) SuperDuct RC Type 800as indicated in the drawings, excluding applications listed in Section E. All air turning vanes shall meet the ASHRAE/SMACNA guidelines for double wall vane air flow performance.
3. All fabrication and installation shall be in accordance with the manufacturer's written fabrication manual, the 2001 (or later) NAIMA Fibrous Glass Duct Construction Standards, The Pocket Installer, or Johns Manville fabrication submittal sheets.

#### B. System Performance

- The installed 1" (25 mm) SuperDuct RC Air Duct Board shall have a Thermal Resistance (R-Value) of 4.3 (RSI 0.76) at 75°F (24°C) mean temperature, and a Noise Reduction Coefficient (NRC) of 0.75 per ASTM C 423-90 (Type "A" mounting).
- The installed 1½" (38 mm) SuperDuct RC Air Duct Board Type 800 shall have a Thermal Resistance (R-Value) of 6.5 (RSI 1.15) at 75°F (24°C) mean temperature, and a Noise Reduction Coefficient (NRC) of 0.90 per ASTM C 423-90 (Type "A" mounting).

#### C. Performance Requirements

SuperDuct RC System products shall be factory coated with a black acrylic polymer formulated with an immobilized, EPA-registered, protective agent to protect the coating from potential growth of fungus and bacteria, and shall meet the requirements of the following test procedures:

- a. No detectable fiber loss under electron microscope analysis of isokinetic air sampling at maximum rated velocity, using UL 181 test duct configuration.
- b. No observed microbial growth on the coated surface based on ASTM G-21 and G-22 tests for fungus and bacteria growth.
- c. Conformance to the requirements of NFPA 90A and 90B for FHC 25/50 and limited combustibility.
- d. Conformance to the requirements of the State of Washington Building Services Department requirements for emissions of total volatile organic compounds (TVOC) and formaldehyde (CHOH) in accordance with ASTM D 5116-90.
- e. UL 181 requirements for Class 1 label, with a maximum velocity rating of 6000 fpm (30.5 m/s), which provides for a composite rating of duct material, closures and assembly.

#### D. Closure and Reinforcement

1. Duct closures shall utilize materials in compliance with the requirements of UL 181A. Pressure sensitive (UL 181A-P), heat sealed (UL 181A-H), or glass fabric and mastic (UL 181A-M) closures must be so identified by the manufacturer. All joints shall be stapled or cross tabbed except machine-made longitudinal joints. Field connections to equipment or metal ductwork shall include mechanical fasteners.
2. Reinforcing on systems with internal static pressures up to and including 2" w.c. (498 Pa), shall be in accordance with the manufacturer's recommendations, as described in the NAIMA Fibrous Glass Duct Construction Standards Manual, and The Pocket Installer. Anti-sag supports shall be placed in positive pressure ducts 48" (1219 mm) or larger as shown in The Pocket Installer.

#### E. Quality Provisions

1. Joint misalignment shall not exceed a ¼" (6.4 mm) offset.
2. Where male/female joints and/or staple flaps are not used, 8" (203 mm) strips of Therm-Lock closure shall be placed on 12" (305 mm) centers, minimum of one per side.
3. All joints shall be firmly seated as evidenced by no air gaps under the closure.
4. All ABI dots on heat-seal closures shall be darkened.
5. Any facing tears shall be repaired with a UL 181A closure.
6. Any airstream damage shall be repaired with SuperSeal® Edge Treatment, SuperSeal® Duct Butter or SuperSeal® HV.
7. SuperDuct RC to metal connections shall include mechanical fasteners, minimum one per side on 12" (305 mm [max.]) centers.
8. Movable duct internals shall be installed with adequate clearance to avoid contact with the airstream surface, or a metal rubbing plate shall be installed.