

SECTION 15819

AIR DUCT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Air duct sealants for permanently sealing fabricated joints and seams of HVAC air ducts and thermal insulation.
- B. Reinforcing membrane for sealants.

1.2 RELATED SECTIONS

- A. Section 15080 - Mechanical Insulation.
- B. Section 15700 - Heating, Ventilating, and Air Conditioning Equipment.
- C. Section 15810 - Ducts.
- D. Section 15820 - Duct Accessories.

1.3 REFERENCES

- A. ASTM D 1668 - Glass Fabrics (Woven and Treated) for Roofing and Waterproofing.
- B. ASTM E 84 - Surface Burning Characteristics of Building Materials.
- C. ASTM E 96 - Water Vapor Transmission of Materials.
- D. UL 181 - Factory Made Air Ducts and Air Connectors.
- E. UL 181A - Closure Systems for Use with Rigid Air Ducts and Air Connectors.
- F. UL 181B - Closure Systems for Use with Flexible Air Ducts and Air Connectors.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's product data, including physical properties and application instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- B. Storage:
 - 1. Store materials in accordance with manufacturer's instructions.
 - 2. Storage Temperature: 40 to 100 degrees F (4 to 38 degrees C).
 - 3. Protect from freezing.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply below 35 degree F (2 degrees C) or above 120 degrees F (49 degrees C).
- B. Avoid high humidity which will retard drying.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: RCD Corporation; 2850 Dillard Road; Eustis, FL 32726; ASD. Tel: (352) 589-0099 or (800) 854-7494; Fax: (352) 589-0863.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.
- D. Supply all products specified in this section from a single manufacturer.

2.2 AIR DUCT SEALANTS

- A. Low to High Velocity Air Duct Sealant: RCD "#6 Mastic" non-toxic, water-based, fiber-reinforced adhesive-sealant; for permanently sealing fabricated joints and seams of sheet metal air ducts, UL 181 listed rigid fiberglass air ducts, UL 181 listed flexible air ducts, and thermal insulation; for repairing damaged and leaking air ducts; for sealing conditioned spaces from air infiltration.
 - 1. Type: Elastomeric terpolymer emulsion.
 - 2. Applied Research Laboratories Listed: UL 181

3. Underwriters Laboratories Listed: UL 181A-M and UL 181B-M.
 4. Solids by Weight: 67 percent, plus or minus 2 percent.
 5. Weight per Gallon: 10.5 pounds, plus or minus 0.20 pounds (4.76 kg plus or minus 0.09 kg).
 6. Wet Film Coverage: 100 linear feet per gallon at 1/16 inch by 3 inches wide (8.05 m/L at 1.58 x 75 mm).
 7. Consistency: Thixotropic, non-sagging.
 8. Adhesive Cure: 72 hours at 50 percent humidity and 70 degrees F (21 degrees C).
 9. Service Temperature Limits: Minus 10 degrees to 200 degrees F (minus 23 to 93 degrees C).
 10. Flame Spread: Not greater than 5 in accordance with ASTM E 84.
 11. Smoke Developed: Not greater than 0 in accordance with ASTM E 84.
- B. Low to High Velocity Air Duct Sealant: RCD "#8 Mastic" non-toxic, water-based, adhesive-sealant; for permanently sealing fabricated joints and seams of sheet metal air ducts, UL 181 listed rigid fiberglass air ducts, UL 181 listed flexible air ducts, and thermal insulation; for repairing damaged and leaking air ducts; for sealing conditioned spaces from air infiltration.
1. Type: Elastomeric terpolymer emulsion.
 2. Underwriters Laboratories Listed: UL 181A-M and UL 181B-M.
 3. Solids by Weight: 74 percent, plus or minus 2 percent.
 4. Weight per Gallon: 12.1 pounds, plus or minus 0.20 pounds (5.48 kg plus or minus 0.09 kg).
 5. Wet Film Coverage: 100 linear feet per gallon at 1/16 inch by 3 inches wide (8.05 m/L at 1.58 x 75 mm).
 6. Consistency: Thixotropic, non-sagging.
 7. Adhesive Cure: 72 hours at 50 percent humidity and 70 degrees F (21 degrees C).
 8. Service Temperature Limits: Minus 10 degrees to 200 degrees F (minus 23 to 93 degrees C).
 9. Water Vapor Transmission: Not greater than 0.2173 perms per inch (8.555 perms/m) in accordance with ASTM E 96.
 10. Flame Spread: Not greater than 5 in accordance with ASTM E 84.

11. Smoke Developed: Not greater than 0 in accordance with ASTM E 84.
- C. Low to High Velocity Air Duct Sealant: RCD "#9 Mastic" non-toxic, water-based, fiber-reinforced adhesive-sealant; for permanently sealing fabricated joints and seams of sheet metal air ducts, UL 181 listed rigid fiberglass air ducts, UL 181 listed flexible air ducts, and thermal insulation; for repairing damaged and leaking air ducts; for sealing conditioned spaces from air infiltration.
1. Type: Elastomeric terpolymer emulsion.
 2. Underwriters Laboratories Listed: UL-181A-M and UL-181B-M.
 3. Solids by Weight: 70 percent, plus or minus 2 percent.
 4. Weight per Gallon: 12.0 pounds, plus or minus 0.20 pounds (5.44 kg plus or minus 0.09 kg).
 5. Wet Film Coverage: 100 linear feet per gallon at 1/16 inch by 3 inches wide (8.05 m/L at 1.58 x 75 mm).
 6. Consistency: Thixotropic, non-sagging.
 7. Adhesive Cure: 72 hours at 50 percent humidity and 70 degrees F (21 degrees C).
 8. Service Temperature Limits: Zero degrees to 200 degrees F (minus 18 to 93 degrees C).
 9. Water Vapor Transmission: Not greater than 0.6812 perms per inch (26.819 perms/m) in accordance with ASTM E 96.
 10. Flame Spread: Not greater than 5.8 in accordance with ASTM E 84.
 11. Smoke Developed: Not greater than 14.3 in accordance with ASTM E 84.
- D. Reinforcing Membrane: RCD "Glasscoat" inorganic woven fiberglass reinforcing membrane; conforming to irregular surfaces for sealing and coating thermal insulation, air ducts, return air plenums, equipment, vessels, pipes, and fittings.
1. ASTM D 1668, Type III.
 2. Nominal Dry Weight: 1.2 to 2.0 ounces per square yard (40.689 to 67.815 g/sq. m).
 3. Saturated Weight: 1.6 to 2.6 ounces per square yard (54.252 to 88.160 g/sq. m).
 4. Nominal Thread Count: 10 by 20.
 5. Breaking Strength, Saturated: 75 warp, 75 fill minimum.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive air duct sealants.
- B. Notify Architect of conditions that would adversely affect application of sealants. Do not proceed with application until unsatisfactory conditions are corrected.

3.2 SURFACE PREPARATION

- A. Prepare surfaces in accordance with manufacturer's instructions.
- B. Remove water, dirt, oil, grease, and corrosion from surfaces to receive air duct sealants.

3.3 APPLICATION

- A. Apply air duct sealants in accordance with manufacturer's instructions.
- B. Apply to sheet metal air ducts, UL 181 listed rigid fiberglass air ducts, UL 181 listed flexible air ducts, thermal insulation, and other surfaces where indicated.
- C. Do not thin or mix.
- D. Apply tack coat at rate of 2 gallons per 100 square feet (0.815 L/sq. m).
- E. Embed reinforcing membrane into tack coat.
- F. Apply finish coat at rate of 2 gallons per 100 square feet (0.815 L/sq. m).
- G. Allow drying time as follows:
 - 1. Minimum 6 hours when used outdoors if wet weather is imminent.
 - 2. Minimum 24 hours before using air duct system.
 - 3. Additional time as required by air temperature and humidity conditions.

END OF SECTION