

SECTION 15820
DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.2 SUMMARY

- A. Section Includes
 - 1. Manual volume dampers
 - 2. Turning vanes
 - 3. Flexible connectors
 - 4. Flexible ducts
 - 5. Duct accessory hardware

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated

1.4 QUALITY ASSURANCE

- A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems"
- B. Comply with AMCA 500-D testing for damper rating

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections
- B. Galvanized Sheet Steel: Comply with ASTM A653/A653M
 - 1. Galvanized coating designation: G60
 - 2. Exposed-surface finish: Mill phosphatized
- C. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and

stainless steel ducts

- D. Tie Rods: Galvanized steel, ¼-inch minimum diameter for lengths 36 inches or less; ⅜-inch minimum diameter for lengths longer than 36 inches

2.2 MANUAL VOLUME DAMPERS

A. Standard, Steel, Manual Volume Dampers

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following
 - a. McGill AirFlow LLC.
 - b. METALAIRE, Inc.
 - c. Ruskin Company
- 2. Suitable for horizontal or vertical applications
- 3. Frames
 - a. Hat-shaped, galvanized-steel channels, 0.064-inch minimum thickness
- 4. Blades
 - a. Multiple or single blade
 - b. Galvanized-steel, 0.064 inch thick
- 5. Blade axles: Stainless steel
- 6. Tie bars and brackets: Galvanized steel

2.3 TURNING VANES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following

- 1. Ductmate Industries, Inc.
- 2. Duro Dyne Inc.
- 3. METALAIRE, Inc.
- 4. SEMCO Incorporated
- 5. Ward Industries, Inc.; a division of Hart & Cooley, Inc.

B. Manufactured Turning Vanes for Metal Ducts: Curved blades of galvanized sheet steel; support with bars perpendicular to blades set; set into vane runners suitable for duct mounting

C. Vane Construction: Single wall

2.4 FLEXIBLE CONNECTORS

A. Materials: Flame-retardant or noncombustible fabrics

B. Coatings and Adhesives: Comply with UL 181, Class 1

C. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene

- 1. Minimum weight: 26 oz./sq. yd.
- 2. Tensile strength: 480 lbf/inch in the warp and 360 lbf/inch in the filling

3. Service temperature: Minus 40 to plus 200 deg F

2.5 FLEXIBLE DUCTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following
 1. Flexmaster U.S.A., Inc.
 2. McGill AirFlow LLC.
 3. Ward Industries, Inc.; a division of Hart & Cooley, Inc.
- B. Insulated, Flexible Duct: UL 181, Class 1, 2-ply vinyl film supported by helically wound, spring-steel wire; fibrous-glass insulation; aluminized vapor-barrier film
 1. Pressure rating: 10-inch wg positive and 1.0-inch wg negative
 2. Maximum air velocity: 4000 fpm
 3. Temperature range: Minus 10 to plus 160 deg F
 4. Insulation R-value: 4.2

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts
- B. Install duct accessories of materials suited to duct materials; use galvanized-steel accessories in galvanized-steel and fibrous-glass ducts, stainless-steel accessories in stainless-steel ducts, and aluminum accessories in aluminum ducts
- C. Install test holes at fan inlets and outlets and elsewhere as indicated
- D. Install duct security bars. Construct duct security bars per details on drawings. Weld each bar to sleeve and each crossing bar. Connect duct security bars to ducts with flexible connections. Provide 12-by-12-inch hinged access panel with cam lock in duct in each side of sleeve
- E. Connect ducts to duct silencers
- F. Install access doors with swing against duct static pressure
- G. Install flexible connectors to connect ducts to equipment
- H. Connect terminal units to supply ducts directly or with maximum 12-inch lengths of flexible duct. Do not use flexible ducts to change directions
- I. Connect diffusers or light troffer boots to ducts directly or with maximum 60-inch lengths of flexible duct clamped or strapped in place.

END OF SECTION