

# **DRAFT SPECIFICATION**

## **WOVEN VINYL COATED POLYESTER FABRIC**

### **FLOWCON AIR DIFFUSERS**

#### **PART 1-GENERAL**

##### **1.01 DESCRIPTION OF WORK:**

- A. Extent of fabric ductwork is indicated on drawings and by requirements of this section.
- B. Types of fabric ductwork required for this project include the following:
  - 1. FlowCon Fabric Air Diffusers.

##### **1.02 QUALITY ASSURANCE:**

- A. Building Codes and Standards:
  - 1. Product must be tested in accordance with the 25/450 flame spread / smoke developed requirements of ASTM E-84 and classified as a class A building material.
- B. Design & Quality Control
  - 1. Manufacturer must have documented design support information including duct sizing, vent and orifice location, vent and orifice sizing, length, and suspension. Parameters for design, including maximum air temperature, velocity, pressure and fabric permeability, shall be considered and documented.

##### **1.03 SUBMITTALS:**

- A. Product Data: Submit manufacturer's specifications on materials and manufactured products used for work of this section.

##### **1.04 WARRANTY**

- A. Manufacturer must provide a 5 Year Product Warranty for products supplied.

##### **1.05 DELIVERY, STORAGE AND HANDLING:**

- A. Protect fabric air diffuser systems from damage during shipping, storage and handling.
- B. Where possible, store products inside and protect from weather. Prevent dirt and moisture from entering packaging.

#### **PART 2 - PRODUCTS**

##### **2.01 MANUFACTURER:**

Subject to compliance with requirements, provide product manufactured in the United States. Choose one of the following:

- A. FlowCon fabric air diffusers  
Phone: (262) 728-6860  
FAX: (262) 728-6840  
[www.adctubes.com](http://www.adctubes.com)

##### **2.02 FABRIC AIR DISPERSION SYSTEM:**

- A. Air diffusers shall be constructed of a coated woven fire retardant fabric complying with the following physical characteristics:
  - 1. Fabric Construction: Vinyl laminated polyester
  - 2. Coating: Non-air permeable coating
  - 3. Weight: 10 oz./yd<sup>2</sup>
  - 4. Color: (MUST SPECIFY-(white, black, gray, blue, green, red, yellow, tan))
  - 5. Air Permeability: 0 cfm/ft<sup>2</sup> per ASTM D737, Frazier
  - 6. Temperature Range: 0 degrees F to 1800 degrees F
  - 7. Product must be tested in accordance with the 25/450 flame spread / smoke developed requirements of ASTM E-84 and classified as a class A building material.
- B. SYSTEMS FABRICATION REQUIREMENTS:
  - 1. Dispersion orifice sizing, up to 6 inch diameter (design dependant).
  - 2. Size, quantity, and location of orifices to be specified and approved by manufacturer.
  - 3. Inlet connection to metal duct via wormgear band as supplied by manufacturer.
  - 4. Lengths to include required zippers as specified by manufacturer.
  - 5. Fabric system shall include connectors to accommodate suspension system listed below.
  - 6. Any deviation from a straight run shall be made using a gored elbow or a take-off port. Normal 90 degree elbows are 6 gores and a radius of 2.5 times the diameter of the diffuser

C. DESIGN PARAMETERS:

1. Fabric air diffusers shall be designed from 0.25" water gage minimum to 3" maximum, with 0.5" as the standard.
2. Fabric air diffusers shall be limited to design temperatures between 0 degrees F and 180 degrees F.
3. Design CFM, static pressure and diffuser length shall be designed or approved by the manufacturer. (1000 to 1700 cfm recommended).
4. Do not use fabric diffusers in concealed locations.
5. Use fabric diffusers only for positive pressure air distribution components of the mechanical ventilation system.

D. SUSPENSION HARDWARE: (one of following)

1. **Cable:** System shall be installed using a cable system including a single (1 Row) or double strands (2 Row) or triple (3 row) of cable located 2.5" above top-dead-center (1 Row) or 2.5" above the 10 and 2 o'clock locations of the diffuser system. 2 Row supports are required for systems of 30" diameter and larger. Hardware to include cable, eye bolts, cable clamps and turnbuckle(s) as required. System attachment shall be made using plastic snap clips spaced 36 inches. Component options include (must specify per area if multiple on same project):
  1. Galvanized Steel Cable
  2. Stainless Steel Cable
  3. Plastic Coated Stainless Steel Cable
2. **Suspended HD-Rail:** System shall include a single (1 Row) or double (2 Row) runs of aluminum rail diffuser system located 1.5" above top-dead-center (1 Row) or 1.5" above the 10 and 2 o'clock (2 Row) locations of diffuser system. 2 Row supports are required for systems of 30" diameter and larger. Hardware to include 10' sections of track, splice connectors, and vertical cable support kits – consisting of a length of cable with a locking end and Speed link cable connectors, (Stainless Steel available). Radius aluminum track must be included for all radius sections.

**Fabric Rail attachment**

  - a. Cord In continuous supporting cord.
  - b. Gliders are positioned every 36" along the length of the system (all diameters).
3. **Flush-Mount rail:** System shall include aluminum Flush-Mount system located 1.5" above top-dead-center of diffuser system. Hardware to include 10' or 20' sections of rail, Gliders, connections and end plugs as required. Gliders and or cord must promote easy sliding movement through aluminum rail.

**Fabric / Track attachment**

  - a. Cord continuous supporting.
  - b. Gliders are positioned every 36" along the length of the system
4. **Halo-Suspension System:** Tension system available for duct diameters 8" to 36". System shall tension fabric with internal rings located at each zipper connection spaced every 6' to 10' along length of diffuser. Fabric diffuser also tensioned in length by tensioning end cap device.
  1. Galvanized Steel Cable
  2. Stainless Steel Cable
  3. HD Rail Suspension

PART 3 - INSTALLATION

3.01 INSTALLATION OF FABRIC AIR DISPERSION SYSTEM:

- A. Install chosen suspension system in accordance with the requirements of the manufacturer. Instructions for installation shall be provided by the manufacturer with product.

3.02 CLEANING AND PROTECTION:

- A. Clean external surfaces of foreign substance which may cause corrosive deterioration of facing.
- B. If diffuser systems become soiled during installation, they should be removed and cleaned following the manufacturers standard terms of laundry.

\*\*\*END OF SECTION\*\*\*

