

## PULL OUT DUCTSOX SPECIFICATION SECTION

### **PART 1 - GENERAL**

#### 1.01 DESCRIPTION OF WORK:

1. Extent of fabric ductwork is indicated on Drawings and by requirements of this Section
2. Types of fabric ductwork required for project include the following:
  1. DuctSox<sup>®</sup> Fabric Air Dispersion System.

#### 1.02 QUALITY ASSURANCE

1. Codes and Standards:
  1. Product must be Classified by Underwriter's Laboratories in accordance with the 25/50 flame spread / smoke developed requirements of NFPA 90-A.
  2. USDA must list product as approved equipment for Meat & Poultry.

#### 1.03 SUBMITTALS

1. Product Data: Submit manufacturer's submittal on materials and manufactured products used for work of this Section.

#### 1.04 DELIVERY, STORAGE AND HANDLING:

1. Protect shop-fabricated fabric DuctSox and hardware accessories from damage during shipping, storage and handling. Prevent dirt and moisture from entering the packaging.
2. Where possible, store ductwork inside and protect from weather. Where necessary to store outside, store above grade and enclose with waterproof wrapping.

### **PART 2 - PRODUCTS**

#### 2.01 Manufacturer:

Subject to compliance with requirements, provide products manufactured in the United States, choose one of one of the following:

1. DuctSox<sup>®</sup> Fabric Air Dispersion System; Dubuque, IA 52002

#### 2.02 FABRIC AIR DISPERSION SYSTEM

*Insert product specification*

1. *Comfort Throw*
2. *High-Throw*
3. *Low-Throw*
3. Design Parameters
  1. Fabric air diffusers shall be designed for 0.5 inch water gage (124Pa), yielding a maximum operating pressure of 3.1 inches of water (771 Pa).
  2. Fabric diffusers shall be limited to design temperatures between 10 degrees F and 180 degrees F (0 degrees C and 82 degrees C).
  3. Design CFM, static pressure, and diffuser length shall be designed or approved by the manufacturer
  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.

### **PART 3 - INSTALLATION**

#### 3.01 INSTALLATION OF FABRIC AIR DISPERSION SYSTEM:

1. Install chosen suspension system in accordance with the requirements of the manufacturer. The manufacturer with product shall provide instructions for installation.

#### 3.02 CLEANING AND PROTECTION

1. Clean air handling unit and ductwork, unit-by-unit, just before installing fabric air diffusers. Clean external surfaces of foreign substances which might cause corrosive deterioration of facing.
2. Temporary Closure: At ends of ducts which are not connected to equipment or distribution devices at time of ductwork installation, cover with polyethylene film or other covering which will keep the system clean until installation is completed.
3. If fabric air diffuser systems become soiled during the installation, they should be removed and cleaned following the manufacturers standard terms of laundry.

# DuctSox Product Specifications

## 1. Comfort Throw

1. Material: Air diffusers shall be constructed of a non coated woven fire retardant fabric complying with the following physical characteristics:
  1. Fabric Construction: 100% Flame Retardant Polyester
  2. Weight: 6.75 oz/sq.yd. Per ASTM 3776
  3. Color: Green, Red, Blue, White, Grey, Black.
  4. Air permeability: 4 +/-2 ASTM D737, Frazier
  5. Design Temperature: 0 degrees F to 180 degrees F, (Max. 190 F)
  6. Fire Retardancy: Classified by UL in accordance with the flame spread /smoke developed per NFPA 90-A.
2. System Fabrication Requirements:
  1. Dispersion vent width: 0.125 - 2 inches (design dependant)
  2. Width of and location of linear vents to be specified and approved by manufacturer.
  3. Inlet connection to metal duct via metal draw band supplied by manufacturer
  4. Inlet connection includes zipper for easy removal / maintenance
  5. Lengths to include required zippers as specified by manufacturer
  6. Fabric system shall include connectors to attach to suspension system

## 2. High-Throw

1. System must be constructed of a polyethylene fabric that is Classified as an Air Distribution Device by UL in accordance with the flammability and smoke developed requirements as defined by NFPA 90A.
2. Polyethylene material must also consist of the following physical characteristics:
  1. 100 % Polyethylene Construction: 10 x 10 count per inch warp and fill, 1,500 denier flame retardant woven high density polyethylene.
  2. Weight: 6.5 oz/sq.yd. Per ASTM 3776
  3. Thickness: 12 mils, including 2 mil thick coating each side.
  4. Colors: White, Clear, Blue, Grey or Black
  5. Tensile Strength: 214 lbs. warp; 170 lbs. fill per ASTM D5034, Method A
  6. Tear Strength: 61 lbs. warp; 56 lbs. fill per ASTM D751, Method B.
  7. Bursting Strength: 285.6 psi per ASTM D751, Mullen
  8. Hydrostatic Resistance: 80.2 psi per ASTM D751, Method A.
  9. Design Temperature: 0 degrees F to 160 degrees F.
  10. Melt Temperature: 150 degrees F.
  11. Flame Spread / Smoke developed, UL Classified per NFPA 90-A
3. System Fabrication Requirements:
  1. Dispersion orifice sizing, 1 - 5 inch diameters
  2. Quantity of orifices determined by manufacturer per airflow.
  3. Location of orifices set by manufacturer per design criteria.
  4. Steel aircraft cable with eyebolts, thimbles, cable clamps, and turnbuckles with snap hooks for suspension.
  5. Duct inlet connection via fabric belt and loop arrangement.

## 3. Low-Throw

1. **Microbe-X<sup>®</sup> anti-microbial Fabric:** Air diffusers shall be constructed of an anti-microbial treated woven monofilament fabric complying with the following physical characteristics:
  1. Fabric Construction: 100% Monofilament Polyester with anti-microbial treatment proven to remain effective after 100 launder cycles (by mfg.)
  2. Weight: 2.85 oz/sq.yd. Per ASTM 3776
  3. Color: white
  4. Air permeability: (per design, 6, 13, 20, 29, 38 +/-3) ASTM D737, Frazier
  5. Design Temperature: 0 degrees F to 180 degrees F, (Max. 190 F)

(optional fabric)

1. **Std. USDA Fabric:** Air diffusers shall be constructed of a non coated woven fire retardant fabric complying with the following physical characteristics:
  1. Fabric Construction: 100% Spun Polyester
  2. Weight: 6.0 oz/sq.yd. Per ASTM 3776
  3. Color: White
  4. Air permeability:(per design, 6,13,20,29,38 +/-3) ASTM D737, Frazier
  5. Design Temperature: 0 degrees F to 180 degrees F, (Max. 190 F)
2. System Fabrication Requirements:
  1. Duct inlet connection via fabric belt and loop arrangement.
  2. Zippered sectional length as approved by manufacturer for maintenance.
  3. Fabric system shall include connectors to attach to suspension system