

# ***CEG Membrane Diffusion System***

## TABLE OF CONTENTS

### SPECIAL CONSTRUCTION

#### SECTION 13035

#### MEMBRANE DIFFUSION CEILING PANELS

#### PART 1 GENERAL

- 1.1 General Description
- 1.2 Submittals
  - 1.2.1 Samples

#### PART 2 PRODUCTS

- 2.1 Acceptable Suppliers
- 2.2 Membrane Diffusion Panels
  - 2.2.1 Physical Properties
  - 2.2.2 Performance

#### PART 3 EXECUTION

- 3.1 Cleaning
- 3.2 Installation
- 3.3 Penetrations

## SECTION 13035

### MEMBRANE DIFFUSION PANELS

#### PART 1 GENERAL

##### 1.1 General Description

The work in this section includes design, materials, hardware, installation and installation supervision of the Membrane Diffusion ceiling panels.

The work shall include penetrations for fire sprinklers, electrical lines, etc.

##### 1.2 Samples

Submit manufacturer's technical information for each ceiling panel type.

##### 1.2.1 Samples

Submit two (2) samples of all components.

#### PART 2 PRODUCTS

##### 2.1 Acceptable suppliers are as follows:

- A. Controlled Environments Group, LLC (CEG)  
18128 Kieth Harrow Blvd., Ste. C  
Houston, Texas 77084  
281-859-5999  
Website: [www.ce-grp.com](http://www.ce-grp.com)  
Email: [sales@ce-grp.com](mailto:sales@ce-grp.com)

##### 2.2 Membrane Diffusion Ceiling Panels

##### 2.2.1 Physical Properties

The Membrane Diffusion ceiling panels shall be composed of a membrane fabric stretched tight into a frame. The membrane fabric shall be a satin weave polypropylene monofilament with ultraviolet and flame retardant inhibitors. The membrane fabric shall be 5.7 ounces per square yard with a specific gravity of 0.90 and be NFPA 701 certified. The standard membrane diffusion ceiling panels shall be a nominal 2-foot x 4-foot designed to lay into a standard 2-foot x 4-foot acoustical ceiling grid system. Custom sizes are also available. The membrane diffusion panels shall be manufactured in a Class 100 cleanroom and cleaned and bagged prior to shipment to the jobsite.

#### Section 13035-2

##### 2.2.2 Performance

The pressure drop of the Membrane Diffusion ceiling panels shall vary with each series. The pressure drop shall be at 0.04-inch to 0.2-inch W.G., depending on the series selected and average velocity at the ceiling plane.

### 2.2.3 Panel Types

#### 2.2.3.1 MD Series

The fabric rests on an acrylic eggcrate surface (plenum side). This panel is versatile, and can be constructed to any size or shape, including rounded corners.

#### 2.2.3.2 MLW Series

This panel is constructed of an aluminum extruded frame with fabric on the room side of the panel. This panel can be manufactured in a variety of shapes and sizes, whether fitting around wall corners or columns.

#### 2.2.3.3 MLP Series

This panel is constructed of an aluminum extruded frame with fabric on both the plenum side and room side of the frame. The dual layer fabric is widely used in biotech and pharmaceutical manufacturing facilities. This panel also offers an epoxy coating over the fabric spline for ease of cleaning during regularly scheduled maintenance.

## PART 3 EXECUTION

### 3.1 Cleaning

The ceiling grid system shall be thoroughly cleaned and wiped down before installation of the Membrane Diffusion ceiling panels.

### 3.2 Installation

The entire ceiling grid system shall be accurately spaced and leveled to 1/8-inch in 12'-0". The ceiling surfaces must be level, all ceiling units in the same plane shall have the same relative surface level as its adjacent units and all intersections shall be true and in proper alignment. Install the Membrane Diffusion ceiling panels in the lower grid system as per manufacturer's instructions.

### 3.3 Penetrations

Field penetration through the Membrane Diffusion panels for electrical conduits, fire protection, etc., shall be made through the membrane utilizing a hot seal knife through the membrane fabric at the location of the penetration. Supply and install a standard escutcheon to cover the penetration. Consult the manufacturer's instructions prior to commencing any penetration cuts.

-End of Section-