

**SECTION 108200 - LOUVERED ROOF TOP EQUIPMENT SCREENS****PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Pre-formed painted metal panel for enclosing roof top mechanical equipment.
2. Aluminum assembly framing for direct attachment of screening panels to mechanical equipment; no base or curb required unless shown otherwise on drawings.
3. Sliding panels to permit easy access to mechanical equipment for servicing.

**B. Products Not Installed or Furnished in This Section:**

1. Touch-up painting required for scratches and screw heads.
2. Field painting of prime painted screens

**1.2 REFERENCES****A. American Society for Testing and Materials: Standard Specifications for**

1. ASTM B 221-96 - Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire Profiles, and Tubes.

**B. The Aluminum Association, Inc.**

1. AA ADM-1516166 (1994) - Aluminum Design Manual

**C. American Society of Civil Engineers.**

1. ASCE 7-95 - Minimum Design Loads for Buildings and Other Structures.

**1.3 SYSTEM DESCRIPTION****A. Design Criteria:**

1. Manufacturer is responsible for the structural design of all materials, assembly and attachments to resist snow, wind, suction and uplift loading at any point without damage or permanent set.
2. Framing shall be designed in accordance with the Aluminum Design Manual to resist the following loading:
  - a. ASCE 7-95 - Minimum Design Loads for Buildings and Other Structures; American Society of Civil Engineers.

**1.4 SUBMITTALS****A. Product Data:** Submit manufacturer's catalog data, detail sheets, specification and other data sufficient to indicate compliance with these specifications.**B. Shop Drawings:** Indicate layouts heights, component connection details, and details of interface with adjacent construction. Mark data to indicate:

1. Roof top mechanical equipment to be enclosed.
2. As-built site conditions and dimensions and indicate unit size and adjacent construction clearly on shop drawings.
3. Indicate mechanical access location and access doors as coordinated with mechanical equipment manufacturer.

**C. Samples:**

1. Samples of Materials: painted solid and perforated metal
2. Color Selection: Submit paint chart with full range of colors available for Architect's selection.

**D. Certification:** Manufacturer's Certificate of Compliance certifying that thermoplastic panels supplied meet or exceed requirements specified.

- E. Closeout Submittals: Warranty documents, issued and executed by manufacturer, countersigned by Contractor.

## 1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with requirements of building authorities having jurisdiction in Project location.
- B. Manufacturer Qualifications: Minimum five (5) years documented experience producing systems specified in this section.
- C. Pre-Installation Meeting:
  - 1. Convene at job site seven (7) calendar days prior to scheduled beginning of construction activities of this section to review requirements of this section.
  - 2. Require attendance by representatives of the installing subcontractor, (who will represent the system manufacturer) and other entities directly affected by construction activities of this section.
  - 3. Notify Architect four (4) calendar days in advance of scheduled meeting date.

## 1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- B. Storage and Handling: Protect materials and finishes during handling and installation to prevent damage.

## 1.7 PROJECT CONDITIONS

- A. Field Measurements: Take measurements of actual roof top unit for fit without gaps. Indicate measurements on shop drawings fully documenting any field condition that may interfere with the screen system installation.

## 1.8 COORDINATION

- A. Installer for work under this Section shall be responsible for coordination of panel and framing sizes and required options with the Contractor's requirements.
  - 1. Request information on sizes and options required from the Contractor.
- B. Submit shop drawings to the Contractor and obtain written approval of shop drawing from the Contractor prior to fabrication.

## 1.9 WARRANTY

- A. If any part of the rooftop equipment screen fails because of a manufacturing defect within one year from the date of substantial completion, the manufacturer will furnish without charge the required replacement part(s). Any local transportation, related service labor or diagnostic call charges are not included.
- B. This warranty does not cover failure of your rooftop equipment screen if it is damaged by the Owner, or if the failure is caused by improper installation. In no event shall Warrantor be liable for incidental or consequential damages.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Products: Envisor Screening System by CityScapes Incorporated, 4200 Lyman Ct. Hilliard, OH 43026. 1-877-727-3367 [www.cityscapesinc.com](http://www.cityscapesinc.com)
- B. Substitutions: Submit in accordance with Section 012500.

### 2.2 MATERIALS

- A. Painted Metal Panels: Fabricated from rigid aluminum panels in multiple thicknesses.

1. Minimum thickness: 0.063
- B. Perforated Metal Panels: Fabricated from rigid aluminum panels in multiple thicknesses.
  1. Minimum thickness: 0.063
- C. Framing: Aluminum Plate, Shapes and Bar: ASTM B 221, alloy 6061-T5 or 6063-T5.
- D. Threaded Fasteners: All screws, bolts, nut and washers shall be Stainless steel.
  1. Corner assembly fasteners shall be #10-16 x stainless steel TEK screws. Length as required to develop full holding capacity of screw when fastened to Mechanical Equipment.
  2. Provide lock washer or other locking device at all bolted connections.

## 2.3 FABRICATION

- A. Provide factory-formed panel systems with continuous interlocking panel connections and indicated or necessary components: Form all components true to shape, accurate in size, square and free from distortion or defects. Cut panels to precise lengths indicated on approved shop drawings.
- B. Fabricate all panels to slide horizontally to allow access to unit access panels behind.
- C. Panel Design, Style, Trim:
  1. Panel Style: Horizontal.
  2. Panel Design: Metal Series – Vented Louver
  3. Decorative Top Trim Profile: Lineal Band
- D. Trim and Closures: Fabricated from 24 gage metal, and finished with the manufacturers standard coating system, unless shown otherwise on drawings.
- E. Framing: Fabricate and assemble components in largest practical sizes, for delivery to the site.
  1. Construct corner assemblies to required shape with joints tightly fitted.
  2. Supply components required for anchorage of framing. Fabricate anchors and related components of material and finish as required, or as specifically noted.
- F. Vertical and horizontal support members shall be an adjustable, telescoping design to allow:
  1. Adjustment due to sloping roofs.
  2. Unobstructed pathways for service personnel, minimum 48" wide, around the perimeter of the mechanical equipment, or as specified.
- G. Attachment bracket to the mechanical equipment shall not allow penetration of the walls or flat roof of the equipment. Attachment shall only penetrate the roof overhang, base rails, or other corner members that do not compromise the weatherproof cabinet.
- H. The screening system shall extend flush to the top of the mechanical equipment.
- I. The screening system shall extend to the bottom of the mechanical equipment, or to a predetermined point below that level.

## 2.4 FINISHES

- A. Aluminum Framing: Mill finish.
- B. Panel Coating: Manufacturer's standard powder coating system, factory applied.
  1. Color: Selected from full range of manufacturer's standard colors.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Installer's Examination: Examine conditions under which construction activities of this section are to be performed.

1. Submit written notification to Architect and Screen manufacturer if such conditions are unacceptable.
2. Beginning erection constitutes installer's acceptance of conditions.

### 3.2 INSTALLATION

- A. Install units in accordance with the manufacturer's instructions and approved shop drawings. Keep perimeter lines straight, plumb, and level. Provide brackets, anchors, and accessories necessary for a complete installation.
- B. Fasten structural supports to HVAC units without damaging operation of the unit.
  1. Provide corner and mid-span assemblies as required by approved shop drawings so that the panels are supported uniformly.
  2. Fastening bottom rail using bolts to permit ease of access to HVAC units.
- C. Insert thermoplastic panels into structural supports, except where fixed attachment points are indicated. Butt thermoplastic panels to adjacent panels for uniform fit. Fasten fixed panels in accordance with the shop drawings.
- D. Metal Separation: Where aluminum materials would contact dissimilar materials, insert rubber grommets at attachment points, thus eliminating where dissimilar metals would otherwise be in contact.
- E. Do not cut or abrade finishes which cannot be restored. Return items with such finishes to shop for required alterations.

### 3.3 ERECTION TOLERANCES

- A. Maximum misalignment from true position:  $\frac{1}{4}$  inch.

### 3.4 CLEANING AND PROTECTION

- A. Remove all protective masking from material immediately after installation.
- B. Protection:
  1. Ensure that finishes and structure of installed systems are not damaged by subsequent construction activities.
  2. If minor damage to finishes occurs, repair damage in accordance with manufacturer's recommendations; provide replacement components if repaired finishes are unacceptable to Architect.
- C. Prior to Substantial Completion: Remove dust or other foreign matter from component surfaces; clean finishes in accordance with manufacturer's instructions.
  1. Clean units in accordance with the manufacturer's instructions.

END OF SECTION 108200