

SECTION 10 82 00
LOUVERED ROOF TOP EQUIPMENT SCREENS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fixed, extruded-aluminum louvered roof top equipment screens.

1.2 RELATED REQUIREMENTS

- A. Frames fabricated of structural steel: Section 05 50 00, METAL FABRICATIONS.
- B. Concrete slab: Section 03 30 00, CAST-IN-PLACE CONCRETE.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
 - 1. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2016.
 - 2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
 - 3. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2011.
 - 4. ASTM D523 - Standard Test Method for Specular Gloss; 2014.
 - 5. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint; 2002 (Reapproved 2009).
 - 6. ASTM D822/D822M - Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings; 2013.
 - 7. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments; 2008.
 - 8. ASTM D2244 - Standard Practice for Calculation of Color Differences from Instrumentally Measured Color Coordinates; 2011.
 - 9. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact); 1993 (Reapproved 2010).
 - 10. ASTM D3359 - Test Method Measuring Adhesion by Tape Test; 2009.
 - 11. ASTM F2408 - Standard Specification for Ornamental Fences Employing Galvanized Steel Tubular Pickets; 2016.
 - 12. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2000.

13. ASTM B221/B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2000.
14. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2000.

1.4 PERFORMANCE REQUIREMENTS

- A. Design: Design louvers, including comprehensive engineering analysis by a qualified engineer, using structural performance requirements and design criteria indicated.
- B. Structural Performance: Louvers shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver blade rattle or flutter, or permanent damage to fasteners and anchors.
- C. Wind Loads: Determine loads based on a uniform pressure of 30 lb./sq. ft. (1435 Pa), acting inward or outward.

1.5 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
 1. Include plans, elevations, sections, dimensions, details of connections, bracing and installation details.
- C. Manufacturer's Literature and Data:
 1. Description of each product.
 2. Installation instructions.
- D. Qualifications: Installer's qualification statement.
- E. Manufacturer's Warranty.
- F. Selection Samples: For each finish product specified, one complete set of color chips representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this Section, with minimum 5 years of documented experience.
- B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified.

1.7 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: Store materials in a dry area indoors to ensure proper ventilation, protected from damage, weather, vandalism, theft and in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finishes during handling and installation to prevent damage.

1.8 WARRANTY

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."
- B. Finish: 10 years.

PART 2 - PRODUCTS

2.1 EXTRUDED-ALUMINUM ROOF TOP EQUIPMENT SCREEN

- A. Horizontal Blade Louvered Roof Top Equipment Screen
 - 1. Louver Blade Depth: 2 inches.
 - 2. Blade Profile: Tube style blade 4.75 inches wide.
 - 3. Blade Spacing: 6 inches.
 - 4. Blade Nominal Thickness: Not less than 0.080 inch.
 - 5. Framing Support Nominal Thickness: Not less than 0.125 inch.

2.2 MATERIALS

- A. Aluminum Extrusions: ASTM B 221M, Alloy 6063-T5.
- B. Aluminum Sheet: ASTM B 209M, Alloy 3003 with temper as required for forming.
- C. Fasteners: Use types and sizes to suit unit installation conditions.
 - 1. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.

2.3 FABICATION, GENERAL

- A. Join concealed frame members to each other and to fixed louver blades with fillet welds concealed from view welds, threaded fasteners, or both, as standard with louver manufacturer unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

2.4 ALUMINUM FINISHES

- A. High-Performance Organic Finish: 3-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1. Color and Gloss: As selected by Architect from manufacturer's full range.
 - 2. : Galvanized sheet steel minimum Z180 or ZF180 (G60 or A60).

2.5 ACCESSORIES

- A. Miscellaneous Trim: Aluminum sheet formed to shapes indicated and finished to match grilles and screens.
- B. Fasteners: Self-tapping stainless steel screws, as approved by manufacturer of grilles and screens.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction and completed work from damage.

3.2 INSTALLATION - GENERAL

- A. Install products according to manufacturer's instructions and approved submittal drawings.
 - 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.
- B. Locate and place equipment screens level, plumb, and at indicated alignment with adjacent work.
- C. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weather-tight connection.
- D. Provide perimeter reveals and openings of uniform width to allow for thermal expansion, as indicated.
- E. Repair damaged finishes so no evidence remains of corrective work.
Return items that cannot be refinished in the field to the factory and refinish entire unit or provide new units.

3.3 CLEANING

- A. Clean louvered screens with mild household detergent and clean water;
rinse well.

3.4 PROTECTION

- A. Protect installed products until completion of Project.
- B. Repair damage.

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