

## SECTION 08 91 00

### LOUVERS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing the following:

1. Extruded aluminum drainable blade louvers.

##### 1.02 SUBMITTALS

A. Shop Drawings: Furnish shop drawings of louver units and accessories. Include plans, elevations, sections, and details showing profiles, angles, spacing of louver blades, unit dimensions related to wall openings and construction, free areas for each size, and profiles of frames at jambs, heads, and sills.

B. Samples: 6-inch square samples of each required finish. Prepare samples on metal of same gauge and alloy to be used in work.

C. Warranty.

D. LEED Submittals:

1. Credit MR 4: Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.

- a. Furnish the LEED Online Credit Template declaring that the credit requirements have been met and list the recycled content products used.

- b. List total cost of all materials for the Project.

- c. Required Audit Documentation:

- 1) Manufacturer product data sheets, literature or letters highlighting the overall post-consumer and/or post-industrial recycled content percentages (by weight) of each product listed on the template.

- 2) Materials invoices showing costs for each product listed on the template

##### 1.03 QUALITY ASSURANCE

A. Comply with Sheet Metal and Air Conditioning Contractors National Association (SMACNA) recommendations for fabrication, construction details and installation procedures.

B. Welding Standards: Comply with applicable provisions of D1.2 "Structural Welding Code - Aluminum" and D1.3 "Structural Welding Code - Sheet Steel".

#### 1.04 ENVIRONMENTAL QUALITY ASSURANCE

- A. MR Credit 4: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10-percent of cost of materials used for the Project.
  - 1. The cost of post-consumer content of an item shall be determined by dividing the weight of post-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
  - 2. The cost of post consumer recycled content plus one-half of pre-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content plus one-half of pre-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
- B. Applicable LEED Credits:
  - 1. Credit MR 4: Recycled Content.

#### 1.05 PROJECT CONDITIONS

- A. Field Measurements: Verify size, location and placement of louver units prior to fabrication, and show on shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the work.

#### 1.06 WARRANTY

- A. Furnish warranty covering louver finish against cracking, checking, blistering, peeling, flaking, chipping, chalking and fading, as defined, for 20-years following date of Substantial Completion.
- B. This warranty shall be in addition to and not a limitation of other rights the County may have against the Developer Design/Builder under the Contract Documents.

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. Aluminum Sheet: ASTM B209, Alloy 3003 or 5005 with temper as required for forming.
- B. Aluminum Extrusions: ASTM B221, Alloy 6063-T5 or T52.
- C. Fastenings: Same material as items fastened or 300 series stainless steel. Do not use metals that are corrosive or incompatible with joined materials. Use Phillips flat-head machine screws for exposed fasteners.
- D. Anchors and Inserts: Non-ferrous metal or hot-dip galvanized for exterior installations and as required for corrosion resistance. Use steel or lead expansion bolt devices for drilled-in-place anchors.
- E. Bituminous Paint: Cold-applied asphalt mastic.

#### 2.02 FABRICATION

- A. Provide louvers and accessories of design, materials, sizes, depth, arrangement, and metal thicknesses required.
- B. Assemble louvers in shop to minimize field splicing and assembly. Disassemble units as required for shipping and handling limitations. Mark units for reassembly and coordinated installation.

- C. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.
- D. Fabricate frames, including integral sills, to fit in openings, with allowances made for fabrication and installation tolerances of louvers, adjoining construction, and perimeter sealant joints.
- E. Include supports, anchorages, and accessories required for complete assembly.
- F. Provide sill extensions and loose sills made of same material as louvers where required for drainage to exterior and to prevent water penetrating to interior.
- G. Join frame members to one another and to stationary louver blades by welding except where field bolted connections between frame members are required. Maintain equal blade spacing, including separation between blades and frames at head and sill.

## 2.03 LOUVER SCREENS

- A. Provide removable screens for exterior louvers.
- B. Fabricate screen frames of same metal and finish as louvers.
- C. Provide rewirable frames consisting of formed or extruded metal with a driven spline or insert for securing screen mesh.
- D. Provide either bird screens or insect screens as appropriate for Project conditions.
  - 1. Bird Screens: 1/2-inch sq. mesh, 0.063-inch aluminum wire.
  - 2. Insect Screens: 18 x 14 aluminum mesh, 0.0123-inch diameter, 5056 clad, having a free area of 60-percent.
- E. Locate screens on inside face of louvers. Secure to louver frames with machine screws, spaced at each corner and at 12-inch centers.

## 2.04 BLANK-OFF PANELS

- A. Match finish applied to louvers with respect to coating type, color, and gloss unless otherwise directed by the County's Representative.
- B. Attach blank-off panels to back of louver frames with clips or stainless steel screws.
- C. Fabricate sheets from minimum 0.051-inch thick aluminum.

## 2.05 FINISHES

- A. High-Performance Organic Coating Finish: Full strength 70-percent "Kynar 500" coating baked on for 15-minutes at 450-deg. F. to dry film thickness of 1.0-mil over 0.3-mil baked on epoxy primer. Custom color to match color sample furnished by the County's Representative. Provide number of coats required for specified warranty.
  - 1. Finish shall have been field tested under normal range of weathering conditions for minimum of 20-years without significant peel, blister, flake, chip, crack, or check in finish; without chalking in excess of No. 8 in accordance with ASTM D659; and without fading in excess of 5 NBS units.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Locate and place louvers plumb, level and in proper alignment with adjacent work.
- B. Use concealed anchorages wherever possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.
- D. Repair finishes damaged by cutting, welding, soldering and grinding operations required for fitting and jointing. Restore finishes with no evidence of corrective work. Return items that cannot be refinished in the field to the shop, make required alterations, and refinish entire unit, or provide new units.
- E. Protect galvanized and non-ferrous metal surfaces from corrosion or galvanic action by application of a heavy coating of bituminous paint on surfaces which will be in contact with concrete, masonry or dissimilar metals.
- F. Install concealed gaskets, flashings, joint fillers, and insulations, and install as work progresses to make installations weather-tight.

### 3.02 ADJUSTING AND PROTECTION

- A. Protect louvers and vents from damage during construction, including use of temporary protective coverings where required.
- B. Restore louvers and vents damaged during installation and construction so that no evidence remains of corrective work. If restoration results are unsuccessful as judged by the County's Representative, remove damaged units and replace with new units.

### 3.03 CLEANING

- A. Periodically clean exposed surfaces of louvers and vents that are not protected by temporary covering to remove fingerprints and soil during construction period. Do not let soil accumulate until final cleaning.
- B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Rinse surfaces thoroughly and dry.

END OF SECTION