

## SECTION 089119 – FIXED LOUVERS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes fixed extruded-aluminum and formed-metal louvers.
- B. Related Sections:
1. Section 055000 – Metal Fabrications.
  2. Section 079200 – Joint Sealants.
  3. Section 081113 – Hollow Metal Doors and Frames.
  4. Section 099113 – Exterior Painting.
  5. Section 099123 – Interior Painting.
- C. Reference and Industry Standards
1. The following reference standards are applicable to this Section:
    - a. The current Enterprise Green Communities (EGC) Criteria, and the current New York City Overlay.
  2. Industry Standards
    - ACI (American Concrete Institute)
    - AMCA (Air Movement and Control Association).
    - ASTM (American Society for Testing and Materials).
    - AWS (American Welding Society).
    - ICC-ES (International Code Council – Evaluation Service).
- D. The current NYC Overlay of the current Enterprise Green Communities Criteria:
1. Mandatory Requirements: See the NYC Overlay of the EGC reference standard for full specification.
    - a. All projects must achieve compliance with the mandatory criteria measures that are applicable:
      - Criterion 6.10: Construction Waste Management
  2. Optional Project Requirements for Certification Points
    - a. Additionally, rehab projects are required to achieve **55** optional points. Criteria with optional points related to this Specification Section include, but may not be limited to:
      - Criterion 6.2: Recycled Content and Ingredient Transparency
      - Criterion 6.7: Regional Materials

- Criterion 6.10: Construction Waste Management

## 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.
- B. Shop Drawing: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.

## 1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: Based on tests performed according to AMCA 500-L.
- B. Sample warranties.

## 1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
  1. AWS D1.2, Structural Welding Code - Aluminum.
  2. AWS D1.3, Structural Welding Code - Sheet Steel.

## 1.6 WARRANTY

- A. Special Finish Warranty: Manufacturer agrees to repair or replace components on which finishes fail in materials or workmanship within specified warranty period.
  1. Warranty Period: Five (5) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 FIXED EXTRUDED-ALUMINUM LOUVERS

- A. Horizontal Non-Drainable-Blade Louver:
  1. Louver Depth: **[2 inches] [4 inches] [6 inches]**.
  2. Blade Profile: **[Plain blade without] [Blade with]** center baffle.
  3. Frame and Blade Nominal Thickness: Not less than **[0.080 inch] [0.060 inch for blades and 0.080 inch for frames]**.
  4. Mullion Type: **[Exposed] [Semi-recessed] [Fully recessed]**.
  5. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

- B. Horizontal Drainable-Blade Louver:
  - 1. Louver Depth: **[4 inches]** **[6 inches]**.
  - 2. Frame and Blade Nominal Thickness: Not less than **[0.080 inch]** **[0.060 inch for blades and 0.080 inch for frames]**.
  - 3. Mullion Type: Exposed.
  - 4. AMCA Seal: Mark units with AMCA Certified Ratings Seal.
  
- C. Horizontal, Continuous-Line, Drainable-Blade Louver: Drainable-blade louver with blade gutters (drains) in rear two-thirds of blades only.
  - 1. Louver Depth: 6 inches.
  - 2. Frame and Blade Nominal Thickness: Not less than 0.080 inch.
  - 3. Mullion Type: Semi-recessed.
  - 4. AMCA Seal: Mark units with AMCA Certified Ratings Seal.
  
- D. Horizontal, Wind-Driven-Rain-Resistant Louver:
  - 1. Louver Depth: **[4 inches]** **[5 inches]** **[7 inches]** **[8 inches]** **[9 inches]**..
  - 2. Frame and Blade Nominal Thickness: Not less than **[0.080 inch]** **[0.060 inch for blades and 0.080 inch for frames]**.
  - 3. AMCA Seal: Mark units with AMCA Certified Ratings Seal.
  
- E. Vertical, Wind-Driven-Rain-Resistant Louver:
  - 1. Louver Depth: **[4 inches]** **[6 inches]** **[8 inches]** **[9 inches]** **[12 inches]**.
  - 2. Frame and Blade Nominal Thickness: Not less than **[0.080 inch]** **[0.060 inch for blades and 0.080 inch for frames]**.
  - 3. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

## 2.2 FIXED FORMED-METAL LOUVERS

- A. Horizontal Non-Drainable-Blade Louver
  - 1. Louver Depth: **[4 inches]** **[6 inches]**.
  - 2. Blade Profile: **[Plain blade without]** **[Blade with]** center baffle.
  - 3. Frame and Blade Material and Nominal Thickness: Galvanized-steel sheet, not less than **[0.052 inch for frames and 0.040 inch for blades]** **[0.052 inch]** **[0.064 inch]**.
  - 4. Frame and Blade Material and Nominal Thickness: Stainless-steel sheet, not less than **[0.050 inch]** **[0.062 inch]**.
  - 5. Mullion Type: **[Exposed]** **[Semi-recessed]** **[Fully recessed]**.
  - 6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.
  
- B. Horizontal Drainable-Blade Louver:
  - 1. Louver Depth: **[4 inches]** **[6 inches]**.
  - 2. Frame and Blade Material and Nominal Thickness: Galvanized-steel sheet, not less than **[0.052 inch for frames and 0.040 inch for blades]** **[0.052 inch]** **[0.064 inch]**.
  - 3. Frame and Blade Material and Nominal Thickness: Stainless-steel sheet, not less than **[0.050 inch]** **[0.062 inch]**.
  - 4. Mullion Type: Exposed.

5. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

## 2.3 LOUVER SCREENS

- A. General: Provide screen at each exterior louver.
  1. Screen Location for Fixed Louvers: Interior face.
  2. Screening Type: [**Bird screening**] [**Bird screening, except where insect screening is indicated**] [**Insect screening**].
- B. Louver Screen Frames: Same type and form of metal as indicated for louver to which screens are attached.
- C. Louver Screening for Aluminum Louvers:
  1. Bird Screening: Aluminum, 1/2-inch-square mesh, 0.063-inch wire.
  2. Bird Screening: Stainless steel, 1/2-inch-square mesh, 0.047-inch wire.
  3. Bird Screening: Flattened, expanded aluminum, 3/4 by 0.050 inch thick.
  4. Insect Screening: Aluminum, 18-by-16 mesh, 0.012-inch wire.
  5. Insect Screening: Stainless steel, 18-by-18 mesh, 0.009-inch wire.
- D. Louver Screening for Galvanized-Steel Louvers:
  1. Bird Screening: Galvanized steel, 1/2-inch-square mesh, 0.041-inch wire.
  2. Bird Screening: Stainless steel, 1/2-inch-square mesh, 0.047-inch wire.
  3. Insect Screening: Galvanized steel, 18-by-14 mesh, 0.011-inch wire.
  4. Insect Screening: Stainless steel, 18-by-18 mesh, 0.009-inch wire.
- E. Louver Screening for Stainless-Steel Louvers:
  1. Bird Screening: Stainless steel, 1/2-inch-square mesh, 0.047-inch wire.
  2. Insect Screening: Stainless steel, 18-by-18 mesh, 0.009-inch wire.

## 2.4 MATERIALS

- A. Aluminum Extrusions: ASTM B221, Alloy 6063-T5, T-52, or T6.
- B. Aluminum Sheet: ASTM B209, Alloy 3003 or 5005, with temper as required for forming, or as otherwise recommended by metal producer for required finish.
- C. Galvanized-Steel Sheet: ASTM A653, [**G60**] [**G90**] zinc coating, mill phosphatized.
- D. Fasteners: Use types and sizes to suit unit installation conditions.
  1. Use [**Phillips flat-head**] [**hex-head or Phillips pan-head**] [**tamper-resistant**] screws for exposed fasteners unless otherwise indicated.
  2. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.
  3. For fastening galvanized steel, use hot-dip-galvanized-steel or 300 series stainless-steel fasteners.
  4. For fastening stainless steel, use 300 series stainless-steel fasteners.
  5. For color-finished louvers, use fasteners with heads that match color of louvers.

- E. Post-Installed Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, fabricated from stainless-steel components, with allowable load or strength design capacities calculated according to ICC-ES AC193 and ACI 318 greater than or equal to the design load, as determined by testing according to ASTM E488 conducted by a qualified testing agency.
- F. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187.

## 2.5 FABRICATION

- A. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.
- B. Join frame members to each other and to fixed louver blades with fillet welds [**concealed from view**] [, **threaded fasteners, or both, as standard with louver manufacturer**] unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

## 2.6 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, or thicker.

## 2.7 GALVANIZED-STEEL SHEET FINISHES

- A. Finish louvers after assembly.
- B. Surface Preparation: Clean surfaces with nonpetroleum solvent, so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating compatible with the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas and repair according to ASTM A780.
- C. Baked-Enamel or Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 2 mils.
  - 1. Color and Gloss: [**As selected by Design-Professional-of-Record from manufacturer's full range**] [**As selected by Owner from manufacturer's full range**].

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated in manufacturers installation instructions.

- D. Protect unpainted galvanized- and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.

### 3.2 ADJUSTING

- A. Restore louvers damaged during installation and construction, so no evidence remains of corrective work. If results of restoration are unsuccessful, remove damaged units and replace with new units.

**END OF SECTION 089119**