

SECTION 08 90 00
LOUVERS AND VENTS

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies fixed and operable wall louvers, door louvers and wall vents.

1.2 RELATED WORK

A. Division 09 - Finishes.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings:
Each type, showing material, finish, size of members, operating devices, method of assembly, and installation and anchorage details.
- C. Manufacturer's Literature and Data:
Each type of louver and vent.

1.4 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. The Master Painters Institute (MPI):
Approved Product List - November 2007
- C. American Society for Testing and Materials (ASTM):
 - A167-99(R2004).....Stainless and Heat-Resisting Chromium - Nickel Steel Plate, Sheet, and Strip
 - A1008/A1008M REV A-07...Steel, Sheet, Carbon, Cold Rolled, Structural, and High Strength Low-Alloy with Improved Formability
 - B209/B209M-07.....Aluminum and Aluminum Alloy, Sheet and Plate
 - B221-06.....Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
 - B221M-07.....Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire Shapes, and Tubes
- D. National Association of Architectural Metal Manufacturers (NAAMM):
AMP 500-505 (1988).....Metal Finishes Manual
- E. National Fire Protection Association (NFPA):
90A-02.....Installation of Air Conditioning and Ventilating Systems

- G. American Architectural Manufacturers Association (AAMA):
605-98.....High Performance Organic Coatings on
Architectural Extrusions and Panels
- H. Air Movement and Control Association, Inc. (AMCA):
500-L-99.....Testing Louvers

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum, Extruded: ASTM B221/B221M.
- B. Stainless Steel: ASTM A167, Type 302B.
- C. Carbon Steel: ASTM A1008/A1008M.
- D. Aluminum, Plate and Sheet: ASTM B209/B209M.
- E. Fasteners: Fasteners for securing louvers and wall vents to adjoining construction, except as otherwise specified or shown, shall be toggle or expansion bolts, of size and type as required for each specific type of installation and service condition.
 - 1. Where type, size, or spacing of fasteners is not shown or specified, submit shop drawings showing proposed fasteners, and method of installation.
 - 2. Fasteners for louvers, louver frames, and wire guards shall be of stainless steel or aluminum.
- F. Inorganic Zinc Primer: MPI No. 19.

2.2 EXTERIOR WALL LOUVERS

- A. General:
 - 1. Provide louvers of size and design shown.
 - 2. Heads, sills and jamb sections shall have formed caulking slots or be designed to retain caulking. Head sections shall have exterior drip lip, and sill sections an integral water stop.
 - 3. Furnish louvers with sill extension or separate sill as shown.
 - 4. Frame shall be mechanically fastened or welded construction with welds dressed smooth and flush.
- B. Refer to drawings for Performance Characteristics:
 - 1. Louvers shall bear AMCA certified rating seals for air performance and water penetration ratings.
- C. Secure angles and plates to louver frames with screws, and to masonry or concrete with fasteners as specified.

3.0 EXTRUDED ALUMINUM STATIONARY LOUVERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Extruded aluminum stationary louvers with drainable blades.

1.2 REFERENCES

- A. AAMA 605.2 - High Performance Organic Coatings on Architectural Extrusions and Panels.
- B. AMCA 500 - Test Methods for Louvers, Dampers and Shutters.
- C. AMCA 511 - Certified Ratings Program for Air Control Devices.

2.1 MANUFACTURER

- A. Ruskin Manufacturing or approved equal.

2.2 EXTRUDED ALUMINUM STATIONARY LOUVERS

- A. Fabrication:
 - 1. Model: ELF375DX.
 - 2. Performance Ratings: AMCA licensed.
 - 3. Frame:
 - a. Material: Extruded aluminum, Alloy 6063-T5.
 - b. Wall Thickness: 0.081 inch (2.1 mm), nominal.
 - c. Depth: 4 inches (102 mm).
 - d. Downspouts and caulking surfaces.
 - 4. Blades:
 - a. Style: Drainable.
 - b. Material: Extruded aluminum, Alloy 6063-T5.
 - c. Wall Thickness: 0.081 inch (2.1 mm), nominal.
 - d. Angle: 37.5 degrees.
 - e. Centers: 5-3/32 inches (129 mm), nominal.
 - 5. Bird Screen:
 - a. Material: Aluminum, [3/4 inch x 0.051 inch (19 mm x 1.3 mm), expanded, flattened] [1/2 inch mesh x 0.063 inch (13 mm mesh x 1.6 mm), intercrimp].
 - b. Frame: Removable, rewireable.
 - 6. Gutters: Drain gutter in head frame and each blade.
 - 7. Downspouts: Downspouts in jambs to drain water from louver for minimum water cascade from blade to blade.
 - 8. Vertical Supports: Hidden vertical supports to allow continuous line appearance up to 120 inches (3,048 mm).

9. Sill: Steeply angled integral sill eliminating areas of standing or trapped moisture where mold or mildew may thrive and effect indoor air quality.
10. Assembly: Factory assemble louver components. All welded construction.

B. Performance Data:

1. Based on testing 48 inch x 48 inch (1,219 mm x 1,219 mm) size unit in accordance with AMCA 500.
2. Free Area: 54 percent, nominal.
3. Free Area Size: 8.58 square feet (0.80 m²).
4. Maximum Recommended Air Flow Thru Free Area: 873 feet per minute (266 m/min).
5. Air Flow: 7,490 cubic feet per minute (212 m³/min).
6. Maximum Pressure Drop: 0.15 inches w.g. (0.04 kPa).
7. Water Penetration: Maximum of 0.01 ounces per square foot (3.1 g/m²) of free area at an air flow of 873 feet per minute (266 m/min) free area velocity when tested for 15 minutes.

2.3 ACCESSORIES

- a. Bird Screens
- b. Insect Screens

2.4 FACTORY FINISH

- A. Standard mill finish.
- B. Kynar 500 Fluoropolymer Coating:
 1. Conform to AAMA 605.2.
 2. Apply coating following cleaning and pretreatment.
 3. Cleaning: AA-C12C42R1X.
 4. Dry louvers before final finish application.
 5. Total Dry Film Thickness: Approximately 1.2 mils (0.03 mm), when baked at 450 degrees F (232 degrees C) for 10 minutes.
- C. Modified Fluoropolymer (50 Percent Kynar) Coating:
 1. Conform to AAMA 605.2.
 2. Apply coating following cleaning and pretreatment.
 3. Cleaning: AA-C12C42R1X.
 4. Dry louvers before final finish application.
 5. Total Dry Film Thickness: Approximately 1.2 mils (0.03 mm), when baked at 450 degrees F (232 degrees C) for 10 minutes.
- D. Acrodize Fluoropolymer Coating:
 1. Conform to AAMA 605.2.
 2. Apply coating following cleaning and pretreatment.

3. Cleaning: AA-C12C42R1X.
4. Dry louvers before final finish application.
5. Total Dry Film Thickness: Approximately 1.2 mils (0.03 mm), when baked at 450 degrees F (232 degrees C) for 10 minutes.

E. Color Anodize Finish:

1. Comply with Aluminum Association AA-C22A44.
2. Apply finish following chemical etching and pretreatment.
3. Electrolytically deposited color anodized finish.
4. Minimum Thickness: 0.7 mils (0.018 mm).

F. Clear Anodize Finish:

1. Comply with Aluminum Association AA-C22A31. Clear anodize finish 204-R1.
2. Apply finish following chemical etching and pretreatment.
3. Minimum Thickness: 0.4 mils (0.01 mm), 30 minute anodizing process.

H. Prime Coat:

1. Apply alkyd prime coat following chemical cleaning and pretreatment.
2. Primer preparation for field painting.

I. Color for Fluoropolymer Coating: Color as selected by VA from manufacturer's standard colors.

J. Color for Anodize Finish: Color as selected by VA from manufacturer's standard colors.

4.1 EXAMINATION

- A. Inspect areas to receive louvers. Notify VA of conditions that would adversely affect the installation or subsequent utilization of the louvers. Do not proceed with installation until unsatisfactory conditions are corrected.

4.2 INSTALLATION

- A. Install louvers at locations indicated on the drawings and in accordance with manufacturer's instructions.
- B. Install louvers plumb, level, in plane of wall, and in alignment with adjacent work.
- C. Install joint sealants.

4.3 CLEANING

- A. Clean louver surfaces in accordance with manufacturer's instructions.
- B. Repair minor damaged surfaces as directed by Architect.

4.4 FINISH

- A. In accordance with NAAMM Metal Finishes Manual: AMP 500-505
- B. Aluminum Louvers:
 - 1. Anodized finish
 - a. AA-M1X Mill finish, as fabricated.
 - b. AA-C22A41 Chemically etched medium matte, with clear anodic coating, Class I Architectural, 0.7 mils thick.
 - c. AA-C22A42 Chemically etched medium matte, with integrally colored anodic coating, Class I Architectural, 0.7 mils thick.
 - NOTE: AA-C22A44 Chemically etched medium matte, with electronically deposited metallic compound, Class I Architectural, 0.7 mils thick may be provided as an option for AA-C22A42 color anodic coating. Dyes will not be accepted.
 - 2. Organic Finish: AAMA 605 (Fluorocarbon coating).
- C. Aluminum: Sand blasted satin finish.
- D. Stainless Steel: Mechanical finish No. 4 in accordance with NAAMM Metal Finishes Manual.
- E. Sheet Steel: Baked-on or oven dried shop prime coat.
 - 1. Paint interior surfaces of lightproof louvers with two additional finish shop coats of baked-on flat black enamel.
 - 2. Finish painting of exposed surfaces of shop primed louvers is specified in Section 09 91 00, PAINTING.
- F. Steel: Surfaces of steel work, for which no other finish is specified, shall be cleaned free from scale, rust, oil and grease, and then given a light colored prime paint after fabrication, except ferrous metals concealed in finished work. Paint all contact surfaces of assembled work (except welded contact surfaces) with an additional shop coat of similar paint.

4.5 PROTECTION

- A. Provide protection for aluminum against galvanic action wherever dissimilar materials are in contact, by painting the contact surfaces of the dissimilar material with a heavy coat of bituminous paint (complete coverage), or by separating the contact surfaces with a performed synthetic rubber tape having pressure sensitive adhesive coating on one side.
- B. Isolate the aluminum from plaster, concrete and masonry by coating aluminum with zinc-chromate primer.
- C. Protect finished surfaces from damage during fabrication, erection, and after completion of the work.

PART 5 - EXECUTION

3.1 INSTALLATION

- A. Set work accurately, in alignment and where shown. Items shall be plumb, level, free of rack and twist, and set parallel or perpendicular as required to line and plane of surface.
- B. Furnish setting drawings and instructions for installation of anchors and for the positioning of items having anchors to be built into masonry construction. Provide temporary bracing for such items until masonry is set.
- C. Provide anchoring devices and fasteners as shown and as necessary for securing louvers to building construction as specified. Power actuated drive pins may be used, except for removal items and where members would be deformed or substrate damaged by their use.
- D. Generally, set wall louvers in masonry walls during progress of the work. If wall louvers are not delivered to job in time for installation in prepared openings, make provision for later installation. Set in cast-in-place concrete in prepared openings.

3.2 CLEANING AND ADJUSTING

- A. After installation, all exposed prefinished and plated items and all items fabricated from stainless steel and aluminum shall be cleaned as recommended by the manufacturer and protected from damage until completion of the project.
- B. All movable parts, including hardware, shall be cleaned and adjusted to operate as designed without binding or deformation of the members, so as to be centered in the opening of frame, and where applicable, to have all contact surfaces fit tight and even without forcing or warping the components.

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