

## 08 90 00 | Louvers and Vents

This section includes metal wall louvers and louver accessories.

### General

1. Louvers shall be constructed to conform to SMACNA standard and approved by manufacturer for proposed usage.
2. Color of Louvers are to be approved by UA.

Note: Sample specification section 10 21 00 is provided in Section V of Design Guidelines for Designer's use.

### References

1. AMCA 500 – Louvers, Dampers, and Shutters.
2. ASTM A 167 – Stainless and Heat – Resisting Chromium – Nickel Steel Plate, Sheet Strip
3. ASTM A 653 – Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
4. NAAMM – Metal Finishes Manual
5. FS TT-C-490- Cleaning Methods and Pretreatment of Ferrous Surfaces for Organic Coatings
6. SMACNA – Architectural Sheet Metal Manual

### System Description

1. Design Requirements:
  - A. Allowable free area: 50% minimum
2. Performance Requirements for Water Penetration: When tested at velocity of 1,100 feet per minute in accordance with AMCA 500, 4-foot by 4-foot unit permits less than 0.002 ounce of water per square foot of free area to pass through louver.
3. Wind Load Requirements: 25 pounds per square foot.

### Submittals

1. Product Data: Descriptive data of louvers including standard drawings, louver free area, maximum recommended air velocity, materials and finishes.
2. Shop Drawings:
  - A. Include details of fabrication and erection anchorage and accessories.
  - B. Indicate elevations, dimensions and tolerances, blade configuration and screening.
3. Samples: Submit two samples, minimum 3" by 6" in size, of finish color for Architect's selection.
4. Certificates: Submit manufacturer's certification that materials meet specification standards.
5. Manufacturer Instructions: Submit manufacturer's installation instructions.
6. Submit lubrication schedules and adjustment requirements.

**Quality Assurance**

1. Manufacturer Qualifications: Company specializing in manufacture of AMCA certified louvers with three years' experience.

**Regulatory Requirements**

1. Conform to applicable code for closing operable louvers in conjunction with the fire and smoke alarm system.
2. Products Requiring Electrical Connection: Listed and classified by testing firm acceptable to the authority having jurisdiction, as suitable for the purpose specified and indicated.

**Field Measurements**

1. Verify that field measurements are as indicated on shop drawings.

**Coordination**

1. Coordinate work with mechanical ductwork and electrical services to motorized equipment.
2. Coordinate work with installation of metal siding and masonry flashings.

**Warranty**

1. Include coverage for degradation of finish.

**PRODUCTS****Manufacturers**

1. Greenheck
2. Airolite Company
3. Arrow United Industries
4. C/S Group: Construction Specialties Inc.
5. American Warming and Ventilating, Inc.
6. Ruskin Division of Phillips Industries Inc.
7. Dowco Corporation

**Materials**

1. Steel Sheet: ASTM A 653, galvanized to ASTM A 653, G90 zinc coating, min 30% mix post-consumer and post-industrial recycled content.

**Accessories**

1. Operating Device: Motorized with electric motor.
2. Bird Screen: Interwoven wire mesh of steel, 0.063 – inch diameter wire, ½ inch open weave, square design mounted, in frame of same material as screen.
3. Insect Screen: 18 by 16 size steel mesh, set in frame of same material as screen.
4. Security Screen: as indicated on drawings
  - A. Bar grill: square neck, fixed bars, 4" spacing, 10 gauge steel, min 30% mix post-consumer post-industrial recycled content
5. Flashing: Of same material as louver frame. Thickness as required to avoid warping, buckling and "oil canning."



6. Sealants: Type as specified in Section 07 90 00
7. Fasteners: Manufacturer's standard, compatible with fabricated items.

### Fabrication

1. Louver Size: 6 inches deep, face measurement as indicated.
2. Louver Blade: Sloped at 45 degree material thickness of 18 gauge integral water stops on blade; attached to frame for fixed and adjustable condition, spacing as recommended by manufacturer.
3. Louver Frame: Channel shape, welded corner joints, with attachment devices to suit adjacent construction; with proper tolerances for installation of sealants.
4. Mullions: Concealed of steel, profiled to suit louver frame.
5. Head, Jamb, and Sill Flashings: Roll formed to required shape, one piece per location.
6. Screens: Permanently install screen mesh in shaped frame with reinforced corner construction, screw to louver frame.
7. Blank-Out Sheeting on interior of Louver:
  - A. Configuration: Single sheet, min 18 gauge steel, min 30% mix of post-consumer and post-industrial recycled steel.
8. Fabricate units rigid, neat in appearance, and free from defects, warp or buckle.
9. Dress exposed welds for smooth flush appearance

### Finishes

1. Preparation:
  - A. Grind welds flush and smooth
  - B. Polish exposed weld marks to match original finish.
  - C. Use pretreatment complying with FS-TT-C-490 to remove grease, oil, dirt and other foreign matter.
2. General:
  - A. Comply with NAIMF "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated.
  - B. Factory applies finishes after products are assembled.
  - C. Protect finishes on exposed surfaces with protective covering, prior to shipment.
  - D. Remove scratches and blemishes from exposed surfaces which will be visible after completing finishing process.
3. Sheet Steel Finishes:
  - A. Preparation: Clean surfaces of dirt, grease, and other contaminants. Clean welds, mechanical connections, and abraded areas and repair galvanizing in accordance with ASTM A 780. Apply compatible conversion coating.
  - B. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply air-dried primer immediately after cleaning and pretreating.
  - C. Baked-Enamel Finish:

- i. Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat, with not less than 1 mil dry film thickness for topcoat. Comply with paint manufacturer's written instructions for applying and baking to achieve minimum dry film thickness of 2 mils.
- ii. Color and Gloss: As selected by A/E from manufacturer's full range of choices for color and gloss.

### Examination

1. Verify that prepared openings and flashing are ready to receive work and opening dimensions are as indicated on the shop drawings.
2. Verify that proper power supply is available.
3. Beginning installation means acceptance of existing conditions.

### Installation

1. Install in accordance with manufacturer's instructions.
2. Install louvers level and plumb.
3. Secure louvers in opening framing with concealed fasteners wherever possible, hinged for maintenance purpose.
4. Align louver assembly to ensure moisture shed from flashings and diversions of moisture to exterior.
5. Form tight joints with exposed connections accurately fitted together.
6. Install bird and insect screening to interior louver. Hinge screens for access.
7. Install perimeter sealant and backing rod in accordance with Section 7900.

### Adjusting

1. Where louvers are to be operational adjust operable louvers for freedom of movement. Lubricate opening joints.

### Cleaning

1. Repair damage to louvers and screens as a result of cutting, grinding, or welding to match original condition.
2. Clean surfaces and components to remove foreign substances.

- End of Guideline -