

**SECTION 08 90 00
LOUVERS AND VENTS**

PART 1 - GENERAL

1.1 DESCRIPTION:

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

1.2 RELATED WORK:

- A. Color of finish: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 SUBMITTALS:

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

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 – Updated Monthly
- C. ASTM International (ASTM):
 - A240/A240M-14.....Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
 - A653/A653M-13.....Steel Sheet Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot Dip Process
 - A1008/A1008M-13..Steel, Sheet, Carbon, Cold Rolled, Structural, and High Strength Low-Alloy with Improved Formability
 - B209-14Aluminum and Aluminum Alloy, Sheet and Plate
 - B209M-14Aluminum and Aluminum Alloy, Sheet and Plate (Metric)
 - B221-14Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes

- B221M-13Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric)
- D1187/D1187M-97(R2011) Asphalt-Base Emulsions for Use as Protective Coatings for Metal
- D. National Association of Architectural Metal Manufacturers (NAAMM):
AMP 500-06.....Metal Finishes Manual
- E. National Fire Protection Association (NFPA):
90A-15Installation of Air Conditioning and Ventilating Systems
- F. American Architectural Manufacturers Association (AAMA):
2605-13.....High Performance Organic Coatings on Architectural Extrusions and Panels
- G. Air Movement and Control Association, Inc. (AMCA):
500-L-07Testing Louvers

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Galvanized Steel Sheet: ASTM A653/A653M; G90 min.
- B. Fasteners: Fasteners for securing louvers and wall vents to adjoining construction, except as otherwise specified or indicated in construction documents, to 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 to be of stainless steel or aluminum with same finish as louvers.
 - 3. Fasteners for louvers, louver frames and wire guards within mental health areas to be non-removable/tamper-proof type.
- C. Inorganic Zinc Primer: MPI No. 19.

2.2 EXTERIOR WALL LOUVERS:

- A. General:
 - 1. Provide Fixed type louvers of size and design shown, with minimum sound attenuation as noted on soft ducks.
 - 2. Heads, sills and jamb sections are to have formed caulking slots or be designed to retain caulking. Head sections are to have exterior drip lip, and sill sections an integral water stop.
 - 3. Furnish louvers with sill extension or separate sill as shown.

4. Frame is to be mechanically fastened or welded construction with welds dressed smooth and flush.
- B. Performance Characteristics:
- C. Formed Steel Louvers: Form galvanized louvers using 1.5 mm (0.059-inch) thick sheet for frames, sills and mullions.
 1. Provide louver with fixed 18 gauges galvanize steel airfoil blades and 22 gauge minimum perforated.
 2. Acoustical fill shall be bacteria and fungus resist shut-free glass fiber insulation.
 3. Acoustical and aerodynamic performance shall be as scheduled on the drawings.

2.3 CLOSURE ANGLES AND CLOSURE PLATES:

- A. Fabricate from 2 mm (0.078-inch) thick stainless steel or aluminum.
- B. Provide continuous closure angles and closure plates on inside head, jambs and sill of exterior wall louvers.
- C. Secure angles and plates to louver frames with screws, and to masonry or concrete with fasteners as indicated in construction documents.

2.4 WIRE GUARDS:

- A. Provide wire guards on outside of all exterior louvers, except on exhaust air louvers.
- B. Fabricate frames from 2 mm (0.078-inch) thick extruded or sheet aluminum designed to retain wire mesh.
- C. Wire mesh to be woven from not less than 1.6 mm (0.063-inch) diameter aluminum wire in 13 mm (1/2-inch) square mesh.
- D. Miter corners and join by concealed corner clips or locks extending not less than 57 mm (2-1/4 inches) into rails and stiles. Equip wire guards over 1219 mm (4 feet) in height with a mid-rail constructed as specified for frame components.
- E. Fasten frames to outside of louvers with aluminum or stainless steel devices of same finish as louvers designed to allow removal and replacement without damage to the wire guard or the louver.

2.5 BLANK-OFF PANELS:

- A. Uninsulated panels attached with clips or screws as follows: Panel finish is to be same finish applied to louvers.
 1. Galvanized-steel sheet for galvanized-steel louvers, 1.02 mm (0.040 inch) minimum.
- B. Insulated laminated panels consisting of an insulating core surfaced on back and front with metal sheets and attached to back of louver with clips

on screws and gasketed or sealant sealed perimeter. Panel finish is to be same finish applied to louvers.

1. Thickness: 50 mm (2 inches).
2. Galvanized-steel sheet for galvanized-steel louver 0.71 mm (0.028 inch) minimum.
3. Insulating Core: Rigid, glass-fiber-board.

2.6 FINISH:

- A. In accordance with NAAMM Metal Finishes Manual: AMP 500-505
- B. Galvanized Sheet Steel: Two-coat baked-enamel or powder-coat finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 0.05 mm (2 mils).
 1. Paint interior surfaces of lightproof louvers with two (2) additional finish shop coats of baked-on flat black enamel.
- C. 2. Finish painting of exposed surfaces of shop primed louvers is specified in Section 09 91 00, PAINTING.
- D. 3. Manufacturer finished louvers and blank-off panels are to have color as indicated in Section 09 06 00, SCHEDULE FOR FINISHES.
- E. F. Steel: Surfaces of steel work, for which no other finish is specified, are to 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.

2.7 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 coating (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. Strippable plastic coating finish is not approved.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Set work accurately, in alignment and where indicated in construction documents. Install 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 and vents 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.

3.2 CLEANING AND ADJUSTING:

- A. After installation, all exposed prefinished and plated items and all items fabricated from stainless steel and aluminum are to be cleaned as recommended by the manufacturer and protected from damage until completion of the project.
- B. All movable parts, including hardware, are to 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.
- C. Restore louvers and vents damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Contracting Officer Representative (COR) damaged units and replace with new units.

END OF SECTION 08 90 00