

**SECTION 08 90 00
LOUVERS AND VENTS**

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies fixed and operable wall louvers, vents, and area wells.

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: Each type, showing material, finish, size of members, 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(R2009).....Stainless and Heat-Resisting Chromium - Nickel
Steel Plate, Sheet, and Strip

A1008/A1008M-10.....Steel, Sheet, Carbon, Cold Rolled, Structural,
and High Strength Low-Alloy with Improved
Formability

B209/B209M-03 (R2007)...Aluminum and Aluminum Alloy, Sheet and Plate

B221-08.....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 500-06.....Metal Finishes Manual

E. National Fire Protection Association (NFPA):
90A-09.....Installation of Air Conditioning and
Ventilating Systems

F. American Architectural Manufacturers Association (AAMA):

2605-11.....High Performance Organic Coatings on
Architectural Extrusions and Panels

G. Air Movement and Control Association, Inc. (AMCA):
500-L-07.....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 fixed type 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. Performance Characteristics:
 - 1. Verify louver design with mechanical drawings and specifications.
 - 2. Louvers shall bear AMCA certified rating seals for air performance and water penetration ratings.
- C. Aluminum Louvers:

1. General: Frames, blades, sills and mullions (sliding interlocking type); 2 mm (0.081-inch) thick extruded aluminum. Blades shall be standard or drainable type and have reinforcing bosses.
2. Louvers, fixed: Make frame sizes 13 mm (1/2-inch) smaller than openings. Single louvers frames shall not exceed 1700 mm (66 inches) wide. When openings exceed 1700 mm (66 inches), provide twin louvers separated by mullion members.

2.3 DECORATIVE LOUVERS

- A. Basis of Design: Greenheck Model ESD-435
- B. Shape: Triangular, Pyramid.
- C. Frame: 4" deep Channel, 0.125 in. thick Aluminum.

2.4 BRICK VENTS

- A. Basis of Design: Sunvent Industries: Model "C" 4" Deep Cast Aluminum Brick Vent.
- B. Vents shall be of size shown formed of approximately 6 mm (0.25 inch) thick cast aluminum, complying with ASTM B26 or ASTM B85, Alloy No. 319.
- C. Provide vents complete with aluminum screen frame with corrosion resistant insect screening mounted on back of vent.
- D. Provide vents with required anchors.

2.5 AREA WELLS

- A. Corrugated galvanized steel with galvanized steel angles and bolts as detailed.
- B. Basis of Design: Northwest Metal Products Co.(NorWesCo) Window Wells.
- C. At Brick Vents: Model FV2012, 12" height, 20 ga.
- D. At Foundation Louvers: Model BS7920, 24" height, 16 ga.
 1. Cover area well openings at foundation louvers with expanded metal well cover that meets the following specifications:
 - a. Window well capable of supporting 300 lbs., 1/2" - #13f steel expanded metal, 1 1/2" x 1 1/2" x 1/8" steel angle frame. Provide minimum of (3) 1" sq. steel cross supports, galvanized finish. Provide shop drawings for review.
 - b. Basis of design is "Window Well Experts".
- E. At Crawl Access Doors: Model BS5538, 36" height, 18 ga.
 1. Cover area well openings at crawl access doors with expanded metal well cover that meets the following specifications:
 - a. Window well capable of supporting 300 lbs., 1/2" - #13f steel expanded metal, 1 1/2" x 1 1/2" x 1/8" steel angle frame. Provide

minimum of (3) 1" sq. steel cross supports, galvanized finish.
Provide shop drawings for review.

b. Basis of design is "Window Well Experts".

2.6 CLOSURE ANGLES AND CLOSURE PLATES

- A. Fabricate from 2 mm (0.074-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 specified.

2.7 FINISH

- A. In accordance with NAAMM Metal Finishes Manual: AMP 500-505, Section 09 06 00 SCHEDULE OF FINISHES.
- B. Aluminum Louvers
 - 1. Organic Finish: AAMA 605 (Fluorocarbon coating). Section 09 06 00 SCHEDULE OF FINISHES.
- C. Aluminum Wall Vents and Brick Vents: Baked Enamel. Section 09 06 00 SCHEDULE OF FINISHES.
- 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. Section 09 06 00 SCHEDULE OF FINISHES.
 - 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. Section 09 06 00 SCHEDULE OF FINISHES.

2.8 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. Strippable plastic coating on colored anodized.

PART 3 - 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 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.
- D. Generally, set wall louvers and vents in masonry walls during progress of the work. If wall louvers and vents 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.

3.3 SCHEDULE

L-1 (intake louver)

5600 cfm

48"x48"x4"

Stationary louver with drainable blades and drainable head

0.081" thick aluminum

with aluminum bird screen

minimum 8.9 square feet free area

maximum pressure drop of 0.075" water column

minimum 1150 feet per minute beginning point of water penetration

L-2 (exhaust louver)

5600 cfm

72"x30"x4"

Stationary louver with drainable blades and drainable head

0.081" thick aluminum

with aluminum bird screen

minimum 7.5 square feet free area

maximum pressure drop of 0.09" water column

minimum 1150 feet per minute beginning point of water penetration

L-3 (Chiller Enclosure)

5600 cfm

54"x48"x4"

Stationary louver with drainable blades and drainable head

0.081" thick aluminum

with aluminum bird screen

minimum 1150 feet per minute beginning point of water penetration

Decorative Louvers

See drawings for sizes and locations.

Stationary louver with drainable blades and drainable head

0.081" thick aluminum

with aluminum bird screen

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