

**GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS**

---

**Specification  
for  
FIXED METAL LOUVERS**

**PART 1 GENERAL**

**1.01 WORK INCLUDED**

- A. The Contractor shall furnish all labor, materials, equipment and appliances required for the complete execution of the Work as shown on the Contract Drawings, specified in the Detailed Specifications, and as specified herein.
- B. The extent of louver work is shown on the Contract Drawings and includes the following:
  - 1. Individual louver openings where indicated.
  - 2. Blank-off metal panels where required.
  - 3. Bird screen or insect screen as required.
  - 4. Removal sections of louver where indicated on the Drawings.
- C. The following index of this Specification is included for convenience:

<u>Article</u>	<u>Title</u>	<u>Page</u>
		10211-
Part 1	General.....	1
1.01	Work Included .....	1
1.02	Related Specifications.....	2
1.03	Codes And Standards.....	2
1.04	Submittals .....	2
1.05	Delivery, Storage And Handling .....	2
Part 2	Products .....	3
2.01	Manufacturers .....	3
2.02	Materials .....	3
2.03	System Performance Requirements .....	4
2.04	Finish .....	4
Part 3	Execution .....	4

**GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS**

---

3.01	Installation .....	4
3.02	Cutting And Fitting .....	5
3.03	Cleaning .....	5

1.02 RELATED SPECIFICATIONS

- A. General Specification 07900 - Caulking and Sealants

1.03 CODES AND STANDARDS

- A. All units shall conform to AA-Aluminum Standards and Data, latest edition.

1.04 SUBMITTALS

- A. In accordance with the procedures and requirements set forth in the General Conditions and Division 1, the Contractor shall submit the following:

- 1. Samples
- 2. Working Drawings

- B. Samples shall include color and finish samples for each finish type required.

- C. Working Drawings of louver units and accessories include plans, elevation, sections and details showing profiles, angles, spacing of louver blades, unit dimensions related to wall openings and construction; free areas for each size indicated; profiles of frames at jambs, head and sills.

- 1. Where installed products are indicated to comply with certain structural design loadings, include structural computations, material properties and other information needed for structural analysis which has been prepared by or under the supervision of a qualified professional engineer.

- D. Product test reports evidencing compliance of units with performance requirements indicated.

- E. Products certificates signed by louver manufacturers certifying that their products which comply with project requirements are licensed to bear the AMCA seal based on tests made in accordance with AMCA Standard 500 and complying with AMCA Certified Ratings Program.

- F. Submit samples, 6 inch square, of equal type of metal of the same gauge and alloy to be used in the work.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Brace and support units to prevent deformation during delivery.

**GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS**

- B. Factory wrap units with approved materials to protect finish during delivery and storage.
- C. Handle units with care to prevent bending or scratching.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. The Airolite Co.
- B. Penn Ventilator Co., Inc.
- C. Or approved equal.

**2.02 MATERIALS**

**A. Double Drainable Fixed Louver:**

- 1. Individual louver shall be Airflex Industrial Model No. FDD-6-SS; fixed 45 degree, 6 inch deep dual drainable storm-proof blade of the following characteristics:
  - a. Frames and blades shall be stainless steel 316 alloy .064" thick.
  - b. Fasteners: Of same basic metal and alloy as fastened metal, unless otherwise indicated. Do not use metals which are corrosive or incompatible with materials joined.
    - 1) Use types, gages and lengths to suit unit installation conditions.
    - 2) Use Philips flat-head machine screws for exposed fasteners unless otherwise indicated.
  - c. Anchors and inserts of type, size and material required for type of loading and installation indicated. Use non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installation and elsewhere as required for corrosion resistance.
  - d. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).
- 2. Manufacturer to submit test data on 4 feet x 4 feet louver units. Test data shall show the following results at 1100 fpm free area velocity.

<b>Minimum Free Area</b>	<b>Maximum Pressure Drop</b>	<b>Maximum Water Penetration</b>
7.32 sq ft	0.24 in	0.005 oz

## GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS

0.678 m	6.10 mm	1.53 g
---------	---------	--------

### 2.03 SYSTEM PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design, engineer, fabricate and install metal louvers to withstand the effects of loads and stresses from wind and normal thermal movement without evidencing permanent deformation of louver components including blades, frames and supports, noise or metal fatigue caused by louver blade rattle or flutter; and permanent damage to fasteners and anchors.
1. Wind Load: Uniform pressure (velocity pressure) of 30 lbf per sq. ft. acting inwards or outwards.
  2. Normal thermal movement is defined as that resulting from the following maximum change (range) in ambient temperature. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.
    - a. Temperature Change (Range): 100 deg f (55.5 deg C)
- B. Air-Performance, Water-Penetration and Air-Leakage Ratings: Provide louvers complying with performance requirements indicated as demonstrated by testing manufacturer's stock units of height and width indicated according to Air Movement and Control Association (AMCA) Standard 500.

### 2.04 FINISH

- A. Exposed sides of all stainless steel components shall be Airflex Industrial finish A1221 Glass Bead as per Engineer's sample to match finish of window wall system.

## PART 3 EXECUTION

### 3.01 INSTALLATION

- A. Anchor louver frames using stainless steel bolts into holes drilled and tapped in subframes or with strap anchors to masonry in accordance with the manufacturer's approved directions.
- B. Isolate aluminum from contact with masonry or dissimilar metals with heavy coat of bituminous paint or neoprene gaskets.
- C. Mount bird screens of all louvers unless indicated otherwise on inside face with clips, machine screw into frames. Screws shall be stainless steel.

## **GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS**

---

- D. Verify size, location and placement of continuous louvers and individual louver units prior to fabrication wherever possible. Coordinate field measurement and shop assembly to minimize field adjustment. It is important to recognize that both fabrication and installation be done by the same company in order to achieve the quality required.
- E. Locate and place louver units plumb, level and in proper alignment.
- F. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weather-tight connection.
- G. Form closely fitted joints with exposed connections accurately located and secured.
- H. Provide perimeter reveals and openings of uniform width for sealants and joint fillers as indicated.
- I. Repair finishes damaged by cutting, welding, soldering and grinding operations required for fitting and jointing. Restore finishes so there is no evidence of corrective work. Return items which cannot be refinished in field to shop, make required alterations and refinish entire unit or provide new units.
- J. Install concealed gaskets, flashings, joint fillers and insulation as louver installation progresses where required to make louver joints weather-tight. Comply with General Specification 07900 for sealants applied during installation of louver.
- K. Protect louvers and vents from damage of any kind during construction period including use of temporary protective coverings where needed and approved by louver manufacturer. Remove protective covering at time of Substantial Completion.
- L. Restore louvers and vents damaged during installation and construction period so that no evidence remains of correction work. If results of restoration are unsuccessful, remove damaged units and replace with new units.

### **3.02 CUTTING AND FITTING**

- A. Do all cutting and fitting required for the installation in a neat manner.

### **3.03 CLEANING**

- A. Upon completion remove any and all protective coatings, and clean off all parts of the work in accordance with Division 1.

\* \* \* \* \*

**GENERAL SPECIFICATION 10211 - FIXED METAL LOUVERS**

---

**NO TEXT ON THIS PAGE**