SECTION 08 91 00

METAL [WALL] [AND] [DOOR] LOUVERS
08/20

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC. (AMCA)

AMCA 500-L	(2015) Laboratory Methods of Testing Louvers for Rating
AMCA 511	(2010; R 2016) Certified Ratings Program for Air Control Devices

ALUMINUM ASSOCIATION (AA)

AA DAF45	(2003; Reaffirmed 2009) Designation System for Aluminum Finishes

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 611	(2014) Voluntary Specification for Anodized Architectural Aluminum
AAMA 2603	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels
AAMA 2605	(2020) Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2017) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A653/A653M	(2020) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A780/A780M	(2020) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A1008/A1008M	(2021a) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural,

	High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
ASTM B209M	(2014) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
ASTM B221M	(2021) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)

JAPANESE STANDARDS ASSOCIATION (JSA)

JIS H 4000	(2017) Aluminium and Aluminium Alloy Sheets, Strips and Plates (Amendment 1)
JIS H 4100	(2015) Aluminum and Aluminum Alloy Extruded Profiles

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Wall Louvers

SD-03 Product Data

Metal Wall Louvers

Door Louvers

SD-04 Samples

Wall Louver Samples; G[, [_____]]

Door Louver Samples; G[, [_____]]

1.3 DELIVERY, STORAGE, AND PROTECTION

Deliver materials to the site in an undamaged condition. Carefully store materials off the ground to provide proper ventilation, drainage, and protection against dampness. Louvers must be free from nicks, scratches, and blemishes. Replace defective or damaged materials with new.

1.4 DETAIL DRAWINGS

Show all information necessary for fabrication and installation of wall louvers. Indicate materials, sizes, thicknesses, fastenings, and profiles.

1.5 COLOR SAMPLES

Colors of finishes for wall louver samples and door louver samples must

closely approximate colors indicated. Where color is not indicated, submit the manufacturer's standard colors to the Contracting Officer for selection.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Galvanized Steel Sheet

ASTM A653/A653M, coating designation Z275.

2.1.2 Aluminum Sheet

ASTM B209M or JIS H 4000, alloy 3003 or 5005 with temper as required for forming.

2.1.3 Extruded Aluminum

ASTM B221M or JIS H 4100, alloy 6063-T5 or -T52.

[2.1.4 Stainless Steel

Type 302 or 304, with 2B finish.

]2.1.5 Cold Rolled Steel Sheet

ASTM A1008/A1008M, Class 1, with matte finish. Use for interior louvers only.

2.2 METAL WALL LOUVERS

[Weather][Wind driven rain] resistant type, with bird screens and made to withstand a wind load of not less than [1.44] [_____] kilopascals. Wall louvers must bear the AMCA certified ratings program seal for air performance and water penetration in accordance with AMCA 500-L and AMCA 511. The rating must show a water penetration of 0.06 kilograms or less per square meter of free area at a free velocity of 244 meters per minute.

2.2.1 Extruded Aluminum Louvers

Fabricated of extruded 6063-T5 or -T52 aluminum with a wall thickness of not less than 2 mm.

2.2.2 Formed Metal Louvers

Formed of [zinc-coated] [stainless] steel sheet not thinner than 16 U.S. gage, or aluminum sheet not less than 2 mm thick.

2.2.3 Mullions and Mullion Covers

Same material and finish as louvers. Provide mullions [where indicated] [for all louvers more than 1500 mm in width at not more than 1500 mm on centers]. Provide mullion covers on both faces of joints between louvers.

2.2.4 Screens and Frames

For aluminum louvers, provide 12.5 mm square mesh, 1.8 or 1.5 mm aluminum

or 6 mm square mesh, 1.5 mm aluminum bird screening. For steel louvers, provide 12.5 mm square mesh, 2.5 or 1.5 mm zinc-coated steel; 12.5 mm square mesh, 1.5 mm copper; or 6 mm square mesh, 1.5 mm thick zinc-coated steel or copper bird screening. Mount screens in removable, rewirable frames of same material and finish as the louvers.

2.3 DOOR LOUVERS

[Inverted "Y"][or][Inverted "V"] sightproof type not less than 25 mm thick with matching metal trim. Louvers for exterior doors must be weather resistant type.

2.3.1 Extruded Aluminum Door Louvers

Fabricate of 6063-T5 or -T52 aluminum alloy with a wall thickness of not less than 1.25 mm thick. Frames and trim must be clamp-in "L" type.

2.3.2 Formed Metal Door Louvers

Fabricate of [0.9 mm thick steel sheet][or][sheet aluminum not less than 1.25 mm thick]. Trim must be beveled "Z" molding both sides.

2.3.3 Screens and Frames

For exterior doors, provide aluminum insect screens, 18 by 16 or 18 by 14 mesh. Mount screens in removable, rewirable frames of same material and finish as the louvers.

2.4 FASTENERS AND ACCESSORIES

Provide stainless steel screws and fasteners for aluminum louvers and zinc-coated or stainless steel screws and fasteners for steel louvers. Provide other accessories as required for complete and proper installation.

2.5 FINISHES

2.5.1 Aluminum

Exposed aluminum surfaces must be factory finished with an [anodic coating][or][organic coating].[Color must be [_____][as indicated].] Louvers [for each building] must have the same finish.

2.5.1.1 Anodic Coating

Clean exposed aluminum surfaces and provide an anodized finish conforming to AA DAF45 and AAMA 611. Finish must be:

[a. Architectural Class II (0.01 to 0.0175 mm), designation AA-M10-C22-[A31, clear (natural)] [A32, integral color] [A34, electrolytically deposited color] anodized.

][b. Architectural Class I (0.0175 mm or thicker), designation AA-M10-C22-[A41, clear (natural)] [A42, integral color] [A44, electrolytically deposited color] anodized.

]2.5.1.2 Organic Coating

Clean and prime exposed aluminum surfaces. Provide a [baked enamel finish conforming to AAMA 2603, with total dry film thickness not less than 0.02

mm] [superior performance finish in accordance with AAMA 2605 with total dry film thickness of not less than 0.03 mm], color [_____].

2.5.2 Steel

Surfaces specified must have a zinc coating, a phosphate treatment, and a shop prime coat of rust-inhibitive paint. The galvanized coating must conform to ASTM A653/A653M, coating designation Z275 (G90)[, except that louvers located in conditioned spaces on interior of the building may be Z180 (G60)]. The weight of zinc coatings must be as designated in Table I of ASTM A123/A123M for the thickness of base metal to be coated. The prime coat must be a type especially developed for materials treated by phosphates and adapted to application by dipping or spraying. Repair damaged zinc-coated surfaces by the materials and methods conforming to ASTM A780/A780M and spot prime. At the option of the Contractor, a two-part system including bonderizing, baked-on epoxy primer, and baked-on enamel top coat may be applied before forming, in lieu of prime coat specified.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Wall Louvers

Install using stops or moldings, flanges, strap anchors, or jamb fasteners as appropriate for the wall construction and in accordance with manufacturer's recommendations.

3.1.2 Door Louvers

Install louvers in wood doors by using metal "Z" or "L" moldings. Fasten moldings to door with screws.

3.1.3 Screens and Frames

Attach frames to louvers with screws or bolts.

3.2 PROTECTION FROM CONTACT OF DISSIMILAR MATERIALS

3.2.1 Copper or Copper-Bearing Alloys

Paint copper or copper-bearing alloys in contact with dissimilar metal with heavy-bodied bituminous paint or separate with inert membrane.

3.2.2 Aluminum

Where aluminum contacts metal other than zinc, paint the dissimilar metal with a primer and two coats of aluminum paint.

3.2.3 Metal

Paint metal in contact with mortar, concrete, or other masonry materials with alkali-resistant coatings such as heavy-bodied bituminous paint.

3.2.4 Wood

Paint wood or other absorptive materials that may become repeatedly wet and in contact with metal with two coats of aluminum paint or a coat of heavy-bodied bituminous paint.

-- End of Section --