SECTION 089516 - WALL VENTS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

MasterSpec includes provisions for LEED 2009, LEED v4, IgCC, and Green Globes. Sustainable design requirements may be inserted in the Section Text using the hypertext links.

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Wall vents.

Flood and air vents.

* + - 1. ACTION SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.

Include manufacturer’s installation instructions.

* + - * 1. Sustainable Design Submittals:
				2. Samples: For each type of metal finish required.
			1. INFORMATIONAL SUBMITTALS
				1. Quality Control Submittals:
				2. Evaluation Reports: For flood vents, from ICC Code-ES.
				3. Sample Warranties: For manufacturer’s special warranties.

Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.

* + - 1. WARRANTY

Verify available special finish warranties with manufacturers. Extended 20-year finish warranties are sometimes available for 70 percent fluoropolymer coatings.

* + - * 1. Special Finish Warranty, Factory-Applied Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of baked enamel, powder coat, or organic finishes within specified warranty period.

Retain first subparagraph below for factory-painted finishes. Coordinate color fading and chalking limits with finishes retained in Part 2.

Deterioration includes, but is not limited to, the following:

Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.

Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.

Cracking, checking, peeling, or failure of paint to adhere to bare metal.

Coordinate "Warranty Period" Subparagraphsubparagraph below with "Aluminum Finishes" Article. AAMA 2604 is intended to represent five years of performance; AAMA 2605 is intended to represent 10 years of performance. Some manufacturers also offer a 20-year warranty. Verify available warranties and warranty periods for finishes.

Warranty Period: [**Five**] [**10**] [**20**] <**Insert number**> years from date of Substantial Completion.

* + - * 1. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.

Retain first subparagraph below for anodized finishes. Coordinate color fading and chalking limits with finishes retained in Part 2.

Deterioration includes, but is not limited to, the following:

Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.

Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.

Cracking, peeling, or chipping.

Coordinate "Warranty Period" Subparagraphsubparagraph below with "Aluminum Finishes" Article. Five years is standard for Class I anodized finishes, although a few manufacturers offer a 10- or 20-year warranty. Class II anodized finishes often carry less than a five-year warranty. Verify available warranties and warranty periods for finishes.

Warranty Period: [**Five**] [**10**] <**Insert number**> years from date of Substantial Completion.

1. PRODUCTS

Manufacturers and products listed in this Section are neither recommended nor endorsed by the AIA or Deltek. Before selecting manufacturers and products, verify availability, suitability for intended applications, and compliance with minimum performance requirements. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

Product options commonly available from manufacturers are included in square brackets throughout the Section Text. Not every manufacturer listed can provide every option offered; verify availability with manufacturers. For definitions of terms and requirements for Contractor's product selection, see Section 016000 "Product Requirements."

* + - 1. MANUFACTURERS
				1. Source Limitations: Obtain vents from single source from single manufacturer.
			2. WALL VENTS (BRICK VENTS)
				1. Extruded-Aluminum Wall Vents:

Extruded-aluminum louvers and frames, not less than 0.125-inch (3.18-mm) nominal thickness, assembled by welding; with 18-by-14-- (1.4-by-1.8-mm-) mesh, aluminum insect screening on inside face; incorporating weep holes, continuous drip at sill, and integral waterstop on inside edge of sill; of load-bearing design and construction.

Dampers: Aluminum blades and frames mounted on inside of wall vents; operated from exterior with Allen wrench in socket-head cap screw. Fabricate operating mechanism from Type 304 stainless steel components.

Finish: [**Mill**] <**Insert finish**>.

* + - * 1. Cast-Aluminum Wall Vents:

One-piece, cast-aluminum louvers and frames; with 18-by-14-- (1.4-by-1.8-mm-) mesh, aluminum insect screening on inside face; incorporating integral waterstop on inside edge of sill; of load-bearing design and construction.

Dampers: Aluminum blades and frames mounted on inside of wall vents; operated from exterior with Allen wrench in socket-head cap screw. Fabricate operating mechanism from Type 304 stainless steel components.

Finish: [**Mill**] <**Insert finish**>Mill.

* + - 1. FLOOD AND AIR VENTS

Manufacturers have different methods of providing for air ventilation with their flood and air vents. Verify both ventilation area and flood coverage with manufacturer.

* + - * 1. Stainless Steel Flood and Air Vents: Type 316 stainless steel welded frame and flood door assembly, designed to automatically release under hydrostatic pressure or rising water level.

Ventilation Area: [**0.354 sq. ft. (0.033 sq. m)**] [**0.708 sq. ft. (0.658 sq. m)**] [**1.417 sq. ft. (1.316 sq. m)**] <Insert area>.

Flood Coverage: [**200 sq. ft. (18.6 sq. m)**] [**400 sq. ft. (37.2 sq. m)**] [**800 sq. ft. (74.3 sq. m)**] <**Insert area**>.

Finish: [**Mill**] <**Insert finish**>.

* + - 1. MATERIALS
				1. Aluminum Extrusions: ASTM B221 (ASTM B221M), Alloy 6063-T5, T-52, or T6.
				2. Aluminum Sheet: ASTM B209 (ASTM B209M), Alloy 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer for required finish.
				3. Aluminum Castings: ASTM B26/B26M, Alloy 319.
				4. Stainless Steel Sheet, Strip, Plate, and Flat Bars: ASTM A666 or ASTM A240/A240M, austenitic stainless steel, [**Type 304**] [**Type 316**] [**Type 304 or 316 as indicated**] <**Insert type**>.
				5. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187.
			2. ALUMINUM FINISHES

Retain finishes in paragraphs below to suit Project. If retaining more than one, indicate location of each on Drawings or by inserts.

Retain one of two options in "Clear Anodic Finish" Paragraphparagraph below. Class I finish is heavy anodized. Verify availability with manufacturers.

* + - * 1. Clear Anodic Finish: AAMA 611, [**AA-M12C22A41, Class I, 0.018 mm**] [**AA-M12C22A31, Class II, 0.010 mm**] or thicker.

Retain one of two options in "Color Anodic Finish" Paragraphparagraph below. Verify availability with manufacturers.

* + - * 1. Color Anodic Finish: AAMA 611, [**AA-M12C22A42/A44, Class I, 0.018 mm**] [**AA-M12C22A32/A34, Class II, 0.010 mm**] or thicker.

Color: [**Light bronze**] [**Medium bronze**] [**Dark bronze**] [**Black**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from full range of industry colors and color densities**] <**Insert color**>.

* + - * 1. Conversion-Coated Finish: AA-C12C42, nonetched, cleaned with inhibited chemicals, and chemical conversion coated with acid chromate-fluoride-phosphate.

Delete "Conversion-Coated Finish" Paragraphparagraph above and retain "Conversion-Coated and Factory-Primed Finish" Paragraphparagraph below if extended delay in field painting is anticipated.

* + - * 1. Factory-Primed Finish: AA-C12C42R1x with air-dried primer of not less than 2-mil (0.05-mm) dry film thickness.

"Baked-Enamel or Powder-Coat Finish" Paragraphparagraph below references AAMA standard for pigmented organic coating on aluminum extrusions and panels.

* + - * 1. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

Retain "High-Performance Organic Finish, Two-Coat PVDF," "Superior-Performance Organic Finish, Three-Coat PVDF," "Superior-Performance Organic Finish, Four-Coat PVDF," "Superior-Performance Organic Finish, Single-Coat FEVE," or "Superior-Performance Organic Finish, Two-Coat FEVE" Paragraphparagraph below; if more than one finish is required, indicate location of each system on Drawings, in schedules, or by inserts. Coordinate finish system selected with special finish warranty period specified in Part 1 "Warranty" Article.

In "High-Performance Organic Finish, Two-Coat PVDF" Paragraphparagraph below, retain AAMA 2604 with 50 percent resin content by weight in color coat or AAMA 2605 with 70 percent resin content by weight in color coat for high-performance organic coatings on extrusions and panels. If specific products are required, name coating manufacturers and products.

* + - * 1. High-Performance Organic Finish, Two-Coat PVDF: Fluoropolymer finish complying with [**AAMA 2604**] [**AAMA 2605**] and containing not less than [**50**] [**70**] percent PVDF resin by weight in color coat.

Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions [**for seacoast and severe environments**].

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

* + - * 1. Superior-Performance Organic Finish, Three-Coat PVDF: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.

Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions [**for seacoast and severe environments**].

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

* + - * 1. Superior-Performance Organic Finish, Four-Coat PVDF: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.

Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions [**for seacoast and severe environments**].

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

"Superior-Performance Organic Finish, Single-Coat FEVE" Paragraphparagraph below is not suitable for seacoast and severe environments.

* + - * 1. Superior-Performance Organic Finish, Single-Coat FEVE: Fluoropolymer finish complying with AAMA 2605.

Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

* + - * 1. Superior-Performance Organic Finish, Two-Coat FEVE: Fluoropolymer finish complying with AAMA 2605.

Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions for seacoast and severe environments.

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

* + - 1. STAINLESS STEEL FINISHES

Retain finishes in this article to suit Project. If retaining more than one, indicate location of each on Drawings or by inserts.

* + - * 1. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
				2. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

Retain first subparagraph below for directional finishes.

Run grain of directional finishes with long dimension of each piece.

When polishing is completed, passivate and rinse surfaces.

Remove embedded foreign matter and leave surfaces chemically clean.

* + - * 1. Stainless Steel Sheet and Plate Finishes:

Retain "Cold-Rolled, Bright Finish" or "Directional Satin Finish" Subparagraphsubparagraph below.

No. 2B finish is a smooth, moderately reflective cold-rolled annealed and pickled or descaled finish.

Cold-Rolled, Bright Finish: ASTM A480/A480M, No. 2B.

No. 4 finish is 120- to 320-grit polished finish.

Directional Satin Finish: ASTM A480/A480M, No. 4.

* + - * 1. Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils (0.05 mm).

Color and Gloss: [**As indicated by manufacturer's designations**] [**Match Architect Director’s Representative's sample**] [**As selected by Architect Director’s Representative from manufacturer's full range**] <**Insert color and gloss**>.

1. EXECUTION
	* + 1. INSTALLATION
				1. Install according to manufacturer's written instructions.
				2. Locate and place vents level, plumb, and at indicated alignment with adjacent work.
				3. Attach vents securely in place using fasteners supplied or approved by manufacturer.
				4. Protect unpainted surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.
				5. Build vents into masonry work as construction progresses; comply with requirements in Section 042000 "Unit Masonry."

Retain two paragraphs below if any vents are installed in existing openings.

* + - * 1. Provide perimeter reveals of uniform width for sealants and joint fillers, where indicated.
				2. Use concealed anchorages.
			1. ADJUSTING AND CLEANING
				1. Adjust flood vents for proper operation.
				2. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
				3. Restore vents damaged during installation and construction, so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect Director’s Representative, remove damaged units and replace with new units.

END OF SECTION 089516