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12-20

SECTION 10 73 16
ALUMINUM CANOPY SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Building cantilevered metal sunshades including framing, enclosure, and attachment hardware.

1.2 RELATED SECTIONS

- A. Section 05 40 00 - Cold-Formed Metal Framing.
- B. Section 06 10 00 - Rough Carpentry.
- C. Division 07 - Sheet Metal Flashing and Trim. Gutters and Downspouts
- D. Division 07 - Joint Sealants.
- E. Division 08 - Windows, Storefront and Curtain Wall.

1.3 REFERENCES

- A. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- B. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
- C. ASTM B 429 - Standard Specification for Aluminum-Alloy Extruded Pipe and Tube.
- D. Aluminum Association AA DAF 45 - Designation System for Aluminum Finishes.
- E. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Architectural Extrusions and Panels.
- F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Architectural Extrusions and Panels.

1.4 DESIGN REQUIREMENTS

- A. Pre-Engineered, site assembled system: Design members to withstand dead, live, wind and other applicable loads in accordance with ASCE-7 and all Codes applicable to the Project as listed in the Drawings.
- B. Projection capability: Up to 5 ft cantilever or up to 10 ft Hanger rod braced.
- C. Deflection rating: L/180
- D. Provide data as requested authority having jurisdiction.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used,

including:

1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- B. Shop Drawings: Indicate system components, dimensions, attachments, and accessories
- C. Calculations: Sealed by an Engineer registered in the state of jurisdiction.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
1. Product Data for Credit MR 4.1 and MR 4.2: For products having recycled content, documentation including percentages by weight of post-consumer and pre-consumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.
 2. Product Data for Credit MR 5.1 and Credit MR 5.2: Submit data, including location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for main raw material.
 - a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
- E. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (76 mm) square, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment of cable tension and periodic cleaning and maintenance of all railing and infill components.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Company specializing in performing Work of

this section with minimum five years documented experience and approved by manufacturer.

- C. Design structural components, develop shop drawings, and perform shop and site work under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location.
- D. Welder Qualifications: All welders must be AWS certified welders.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products with labels intact, in manufacturer's unopened packaging until ready for installation.
- B. Protect materials, coatings, and finishes during transportation and installation to prevent damage or staining.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturers:
 - 1. MASA Architectural Canopies:
 - a. <https://www.architecturalcanopies.com/>

2.2 POST SUPPORTED ALUMINUM CANOPY SYSTEM (NOT USED)

2.3 CANTILEVERED ALUMINUM CANOPY (NOT USED)

2.4 CANTILEVERED ALUMINUM LOUVERED SUNSHADE

- A. Basis of Design extruded canopies:
 - 1. MASA Architectural Canopies: Ecoshade.
 - 2. Approved Equal
- B. Cantilevered Metal Louvered Sunshades: Building bracket cantilever supported pre-engineered metal sunshades.
 - 1. Support: Bracket supports configured as indicated on Drawings and conforming to manufacturer's standard attachment details.
 - 2. Framing: 6 to 12 inch depth extruded aluminum as indicated on Drawings, conforming to manufacturer's standard sizes.
 - 3. Accessories:
 - a. Anchors and Fasteners: Stainless steel or hot dip galvanized and corrosion resistant.
 - 4. Finish:
 - a. Anodized.

2.5 HANGER ROD BRACED ALUMINUM CANOPY (NOT USED)

2.6 HANGER ROD BRACED ALUMINUM LOUVERED SUNSHADE (NOT USED)

2.7 MATERIALS

- A. Aluminum Extrusions: ASTM B 221 and ASTM B 429 6061-T6 alloy and temper.
- B. Fasteners: Stainless steel or hot dip galvanized for corrosion resistance.

2.8 FINISHES

- A. Clear Anodized: AA M12C22A31, Class I anodized to 0.0007 inch minimum thickness, clear.
- B. Baked Enamel. Color as selected by the Architect from manufacturer's standard range.
- C. Custom Fluoropolymer Finish: AAMA 2605, fluoropolymer coating containing minimum 70 percent PVDF resins. Color as selected by the Architect from manufacturer's standard range.

2.9 FABRICATION

- A. Fabricate system in accordance with approved Shop Drawings.
- B. All connections shall be mechanically assembled utilizing 3/16" fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are not acceptable.
- C. Support columns and gutter beams shall be designed such that the columns will be notched to create a "saddle" that will receive and secure the gutter beams.
- D. Post and beams shall be mechanically assembled utilizing 3/16" fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are not acceptable.
- E. Decking shall be designed with interlocking extruded aluminum members with mechanical fasteners field applied to provide structural integrity for the completed assembly.
- F. Concealed drainage. Water shall drain from covered surfaces into integral gutter beam and be directed to ground level discharge via one or more designated support post.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Confirm that surrounding area is ready for the canopy installation.
- B. Installer shall confirm dimensions and elevations to be as shown on drawings provided by Mapes Industries.
- C. Erection shall be performed by an approved installer and scheduled after all concrete, masonry and roofing in the area is complete.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install components plumb and level, in proper plane, free from warp and twist.
- C. Anchor system to building components; provide adequate clearance for movement caused by thermal expansion and contraction and wind loads.

3.4 CLEANING

- A. Clean all surfaces and restore any marred or abraded surfaces to original conditions as approved by the Architect.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

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