

SECTION 10 7110 - Exterior Sun Control Devices

Part 1 – General

1.1 Description:

- A. Provide multi directional sunshades as shown on the drawings, as specified, and as needed for a complete and proper installation.
- B. Related work specified elsewhere:
 - 1. Metal Fabrication – 05500

1.2 Reference:

- A. National Association of Architectural Metal Manufacturers (NAAMM)
- B. American Architectural Manufacturers Association (AAMA)

1.3 Performance Requirements:

- A. Structural Performance
 - 1. Combined load on sunshade configurations to be determined in accordance with ASCE 7 or applicable code requirements. Combined load consists of wind, snow and ice loads.
 - 2. Design sunshade configurations to withstand stresses due to combined load. Stresses resulting from thermal expansion and contraction shall not cause permanent deformation of sunshade assemblies or disengagement from the glazed system.
- B. Shading Performance:
 - 1. Design shall allow for onetime adjustment of the airfoil blade angle and size to optimize the shading performance based on project location, latitude, altitude, building orientation, surrounding conditions, and aesthetic requirements.

1.4 Quality Assurance:

- A. Obtain aluminum exterior sunshades, entrances, storefronts, ribbon walls, window walls, curtain walls, window systems, and finish through one source from a single manufacturer.

Part 2 – Products

2.1 Acceptable Manufacturers:

- A. Arcadia, Inc.,
2301 E Vernon, Vernon, CA.
Telephone 323/269-7300,
Fax 323/269-7390
- B. Acceptable Products:
 - 1. Arcadia Brise Flex Soleil Multi Directional Series

2.2 Materials:

- A. Aluminum Extrusions: Alloy and temper recommended by aluminum curtain wall and storefront system manufacturer for strength, corrosion resistance, and application of required finish and not less than 0.070 wall thickness at any location for the main frame and complying with ASTM B 221: 6063-T6, 6105-T5, or 6061-T6 alloy and temper.
- B. Aluminum sheet alloy: Shall meet the requirements of ASTM B209
- C. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of glazed curtain wall and storefront members are nominal and in compliance with AA Aluminum Standards and Data.

2.3 Fabrication, General:

- A. Provide multi directional sunshades and accessories of design, material, sizes, depth, arrangement, and thickness as indicated or as required for optimal performance with respect to strength; durability; and uniform appearance.
- B. Include supports, anchorage, and accessories required for complete assembly, including all attachment clips and necessary hardware for attachment to structure.
- C. Manufacturer shall allow +/- 1/8" thermal expansion room at each shade to compensate for dissimilar movement between building structure and aluminum sunshade structure. This design shall be incorporated as to not induce self-destructing loads onto either shade or building veneer.
- D. No blade fasteners shall be visible after installation of sections. Provide cover plates at each outrigger end to conceal fasteners. Only mounting hardware shall be visible after installation.

2.4 Sunshades:

- A. Sunshade Members: Manufacturer's standard extruded or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
- B. Fasteners and Accessories: Manufacture's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials. Where exposed shall be stainless.
- C. Perimeter Anchors: When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.

2.5 Aluminum Finish For Shades:

- A. Finish all exposed areas of aluminum and components as indicated.
 - 1. An Architectural Class II or I color anodic coating conforming with AA-M12C22A34/AA-M12C22A44.
 - a. Anodized finish color shall be Colornodic _____. (AB1 Light Champagne, AB2 Champagne, AB3 Light Bronze, AB4 Medium Bronze, AB5 Standard Medium Bronze, AB6 Dark Bronze, AB7 Standard Dark Bronze, AB8 Black, AG2 Gold.)
 - 1. An Architectural Class II or I anodic coating conforming with AA-M12C22A31/AA-M12C22A41.

(or)

- a. Anodize finish color shall be Colornodic _____. (#11 Clear)
- 1. Fluorocarbon Coating: AAMA 2605.2.
 - a. Resin: 70% PVDF Kynar 500/Hylar 5000.
 - b. Substrate: cleaned and pretreated with chromium phosphate.
 - c. Primer: Manufacturer's standard resin base compatible coating. Dry film thickness.
 - (a) Extrusion: Minimum 0.20 mil.
 - Color Coat: 70% PVDF, dry film thickness.
 - (a) Extrusion: 1.0 mil.
 - e. Color: As selected by Architect.
 - f. Acceptable Coatings Manufacturers:
 - (a) PPG Industries, Inc.
 - (b) Valspar Corporation
 - (c) BASF

Part 3 – Execution

3.1 Material Inspection:

- A. Examine crates and reconcile to a shipping manifest or packing slip. Verify all required components are present.

3.2 Field Dimensions / Site Inspection:

- A. Prior to Clip Installation:
 - 1. Verify conditions: Examine areas where work is to be performed and identify any conditions that could be detrimental to proper or timely completion.
- B. Prior to Shade Installation:
 - 1. Contractor Shall field confirm openings widths and elevations as shown on shop drawings prior to fabrication of shade sections. Field dimensions of clip locations shall be verified prior to fabrication of sections.
- C. Installation of sections should not proceed until all conditions are satisfactory.

3.2 Installation / Erection:

- A. Comply with manufacturer's instructions and recommendations for installation of the work.
- B. Verify dimensions of supporting structure at the site by accurate field measurements so that the work will be accurately designed, fabricated, and fitted to the structure.
- C. Anchor Sunscreen to building substructure as indicated on the sunshade shop drawings and verified by the engineer of record.
- D. Erection Tolerances:
 - 1. Clips or Mounting Brackets:
 - a. Elevation clip Variation from level: 1/8" maximum in any column to column space or 20'-0" runs, non-cumulative.
 - b. Offsets in projection of clips front leading edge 1/16"+/-.
 - c. Veneer or Wall construction tolerance around clip projection. 1/4"+ outward.
 - d. Clip plumbness: 1/16" in 6"
 - e. Clip projection level: 1/16" in 12"
 - 2. Shade Sections:
 - a. Projection Level: 1/8" in 4'-0"
 - b. Horizontal Level: 1/8" max in any column to column space or in 20'-0" runs, non-cumulative.
 - c. Shade section to section variation 1/32" at adjoining sections.
- E. Do not erect warped, bowed, deformed or otherwise damaged or defaced members. Remove and replace any members damaged in the erection process as directed.
- F. Set units level, plumb and true to line, with uniform joints.
- G. Erect sunshade sections after all adjacent painting, masonry (including chemical treatments), roofing, electrical, glazing, and other similar work is completed above and below the shade sections.

END OF SECTION