

SECTION 12 26 00 – Interior Daylighting Devices

Part 1 – General

1.1 Description:

- A. Provide fixed or operable lightshelf 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 Quality Assurance:

- A. Obtain entrances, storefronts, ribbon walls, window walls, curtain walls, window systems, lightshelf and finish through one source from a single manufacturer.
- B. Manufacturer must operate, design, assemble, and finish their product in the United States of America as a "Made in America" product. All materials must be procured from sources inside the United States of America.

1.4 Warranty

- A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty.
 - 1. Warranty Period: Two (2) years from Date of Substantial Completion of the project, provided however that the Limited Warranty shall begin in no event later than six months from date of shipment by 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 Reflector Solar Series

2.2 Materials:

- A. Aluminum Extrusion Blades: ASTM B211, Alloy 6063-T6.
- B. Aluminum Plate ASTM B211, Alloy 6061-T6.
- C. Fasteners: Fasteners shall be stainless steel. Provide types, gauges and lengths to suit unit installation conditions.
- D. Anchors and Inserts: Use non-Ferrous metal or hot dip galvanized anchors and inserts for installation and elsewhere as required for corrosion resistance. Use stainless steel or zinc galvanized expansion bolt devices for drill-in place anchors. Furnish inserts, as required, to be set into concrete or masonry work. Field weld clips as required.
- E. Aluminum Composite Material (ACM): Panels
- F. Polycarbonate Panel: Monolithic or multilayered extruded cellular polycarbonate panels.

2.3 Fabrication, General:

- A. Provide fixed or operable lightshelf 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 lightshelf structure. This design shall be incorporated as to not induce self destructing loads onto either shade or building veneer.
- D. Provide Outrigger at each end for mounting.

2.4 Lightshelf Construction:

- A. Components:
 - 1. All fascia & blades shall be 6063-T6 aluminum-extruded members.
 - a. Blade infill shall be custom designed with integral screw boss that is hidden from view visible after installation. Size and spacing is to be as shown on the architectural details. Blade infill shall be airfoils, rectangle or tubular sections.
 - b. Blades to be miter cut and fitted to outrigger plates at mitered corner conditions.
 - 2. Outrigger components shall be 6061-T6 aluminum plates.
 - a. Outriggers shall be tapered or shaped aluminum flat plates, screwed to aluminum extrusion blades via countersunk fastener holes. Connections of aluminum extrusions to outriggers should be flush with no protruding fasteners visible after installation. Outriggers are pre-drilled for mounting to the structural lightshelf clip tab via stainless steel expansion slip connection to compensate for thermal expansion.
 - 3. Clip brackets shall be of carbon steel.
 - a. Connection of lightshelf to building shall be friction type with the ability to properly level the lightshelf during installation.

- B. Assembly: Components to be shop assembled in large practical sections to allow for immediate installation. Sections indicated on shop drawings to be assembled and shipped as units with support arms, if required, shipped loose.
 - 1. Fasteners shall be bagged in groups clearly identifying bolt locations and bag contents for easy installation. Manufacturer to provide anti-seize compound for any field bolted stainless hardware to facilitate proper erection.
- 2.5 Aluminum Finish For lightshelf:
- 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 Colorodic _____. (AB1 Light Champagne, AB2 Champagne, AB3 Light Bronze, AB4 Medium Bronze, AB5 Standard Medium Bronze, AB6 Dark Bronze, AB7 Standard Dark Bronze, AB8 Black.)
 - 1. An Architectural Class II or I anodic coating conforming with AA-M12C22A31/AA-M12C22A41.
 - a. Anodize finish color shall be Colorodic _____. (#11 Clear)
 - (or) 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.
 - d. 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 lightshelf Installation:
 - 1. Contractor Shall field confirm openings widths and elevations as shown on shop drawings prior to fabrication of lightshelf. 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 lightshelf to building substructure as indicated on the lightshelf 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 72" 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 lightshelf after all adjacent painting, masonry (including chemical treatments), roofing, electrical, glazing, and other similar work is completed above and below the lightshelf sections.

END OF SECTION