

SPECIFICATIONS

Section 107302 – Architectural Walkway Cover

Part 1: General

1.1 Related Documents

- A. The requirements of Division 1 specifications shall apply to work specified in the section.

1.2 Engineering and Design Criteria

- A. International Building Code 2015
- B. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures
- C. Aluminum Design Manual 2015
- D. AWS D1.2 – 2014, Structural Welding Code - Aluminum
- E. Local governing codes and standards for site location

1.3 General Description of Work

- A. Work in this section shall include design, fabrication, and installation of pre-engineered, pre-finished aluminum protective covers. All work shall be in accordance with the shop drawings and this specification section.

1.4 Submittals

- A. Shop Drawings – Submit complete shop drawings including:
 - 1) Overall canopy layout dimensions
 - 2) Cut section details including elevation, bent layout dimensions, canopy connection details, and wall connection details
 - 3) Flashing details pertaining to aluminum canopy
 - 4) Concrete footing and/or canopy anchorage details
- B. Product Data – Submit manufacturer’s product information, specifications, and installation instructions for the aluminum canopy.
- C. Samples – Submit color selection samples of actual coated aluminum material or actual anodized aluminum material.
- D. Certification – Provide Professional Engineer certification that the proposed canopy design and layout meets or exceeds all applicable loadings (ex: wind load, rain live load, dead load, snow load) for the job location (city & state) in accordance with IBC 2015 and ASCE 7-10.

1.5 Quality Assurance

- A. Manufacturer Qualifications: Minimum five years experience in design, fabrication, and production of aluminum protective covers.
- B. Components shall be assembled in shop to greatest extent possible to minimize field assembly.
- C. Aluminum protective cover, including material and workmanship, shall be warranted from defects for a period of one year from date of completion of aluminum protective cover installation.

Part 2: Products and Materials

2.1 Acceptable Manufacturers

A. **Mitchell Metals, LLC**

1761 McCoba Drive

Smyrna, GA 30080

Phone: 770.431.7300

www.mitchellmetals.net

B. **Dittmer Architectural Aluminum**

1006 Shepard Road

Winter Springs, FL 32708

Phone: 407.699.1755

www.dittdeck.com

- C. Equivalent systems by other manufacturers will be approved for substitution by addendum if the following conditions are met:
- 1) Other manufacturers must have submitted requested information and have been qualified to bid no less than 10 days prior to bid closing date.
 - 2) Manufacturer must submit complete company literature and information to the architect for review
 - 3) Manufacturer must submit complete proposed canopy system details, including sizes and strength values of all members to be used.

2.2 Design & Assembly

- A. Aluminum protective cover shall be mechanically fastened using internally welded brackets and concealed 300 series stainless steel fasteners. Welded connections can be used if shipping allows.

- B. Canopy shall use perimeter extruded gutter and extruded decking running perpendicular to length of sidewalk. Beams are to be notched to receive the extruded gutter to allow decking to sit flush to the top of the beam. Extruded Decking shall be a roll-locked design where the extruded cap and pan shall interlock to make a rigid structure. Crimped decking is not allowed.
- C. False fascia and extruded decking running parallel to length of sidewalk will be allowed if canopy spans exceed limitations of perpendicular decking and perimeter gutter. If used, pans are to be welded at ends to prevent water leakage. Standard T-flashing shall be used where decking is separated at a drain beam. The false fascia is to be secured using a rivet every 4'-0" on center connecting the fascia to the edge pans. Tie back straps are to be installed connecting the top of the fascia to the decking at 8'-0" on center.
- D. Canopies shall drain from the decking to the perimeter gutter, into the drain beam, and discharge at the bottom of the column. For canopies where decking is run parallel to sidewalk, the canopies shall drain from the decking into the drain beam and discharge at the bottom of the column.
- E. Lineal support beams are to be installed running parallel to walkway in between canopy bents. The support beams shall be mechanically fastened to the sides of the drain beams by using an extruded aluminum bracket. Fasteners shall be exposed at connection of support beam to drain beam.
- F. Angled support braces are to be welded to the top part of each column. The braces shall be welded so that when the column is mechanically fastened to the drain beam, the angled support brace lands flush with the outside edge of the beam. The angled support brace is not to be used for drainage of water but simply for support. The brace shall have an internally welded bracket as well as the column and shall be mechanically fastened to the drain beam.
- G. Deflector plates are to be installed at the bottom of the column to discharge the water away from the column. The deflector plates are to be caulked inside the column and fastened to the column using a single rivet.
- H. Columns are to be locked into the concrete foundation using a single piece of ½" rebar, approximately 7" long, running through the bottom of the column below finished floor.

2.3 Materials

- A. Columns
 - 1) Columns are to be radius cornered aluminum tubular extrusions. Size of column used shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum column size shall be 4"x 4" at 0.125" thick.
 - 2) Provide clear acrylic protection or bituminous paint protection between the aluminum column and the concrete foundation.

- 3) Tombstone shaped water outlet holes are to be cut at the bottom of all draining columns with deflector plates installed inside. Circular drain holes are not allowed.
- B. Beams
- 1) Beams are to be open topped aluminum tubular extrusions.
 - 2) Size of beam used shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum beam size shall be 4”x 6” at 0.125” thick.
- C. Decking
- 1) Decking shall be a rigid roll-locked design that is self flashing and utilizes interlocking sections.
 - 2) Extruded decking shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum 3” x 6” cap and pan.
 - 3) Roll Formed is allowed upon the architect’s approval
 - 4) Where decking is run parallel to walkway, the ends of the pans shall be welded closed where decking does not terminate into a drain beam.
- D. Gutter
- 1) Gutter shall be radius cornered aluminum extrusion that exceeds loading requirements in section 1.2 – Engineering Design Criteria. Minimum gutter size shall be 4”x 6” at 0.093” thick.
- E. False Fascia
- 1) False Fascia shall be aluminum extrusion that exceeds loading requirements in section 1.2 – Engineering Design Criteria. Minimum fascia size shall be 1”x 6” at 0.070” thick.
- F. Flashing
- 1) Flashing shall be made of aluminum sheet painted to match the color of the canopy. Minimum flashing thickness shall be 0.040” thick.

2.4 Fasteners

- A. All framing fasteners shall be 300 series stainless steel with neoprene washers. All rivets are 3/16” aluminum. All decking fasteners shall be long life coated steel with a 300 series stainless steel cap and neoprene washer.

2.5 Finishes

- A. Factory applied baked enamel
- 1) Enamel is to comply with AAMA 2603.
 - 2) Color is to be as selected by architect from manufacturer’s standard color chart.

Part 3: Installation and Execution

3.1 Erection

- A. Canopies are to be installed according to approved shop drawings and plans.
- B. The entire structure shall be installed straight, true, and plumb according to standard construction procedures.
- C. Canopies shall be installed with minimal slope to allow water flow from top of canopy to draining columns and eliminate ponding.
- D. Non-draining columns shall have weep holes installed at top of concrete to remove condensation from post. Minimum weep hole size shall be ¼" in diameter.
- E. All joints, corners, and connections shall be tight and clean.
- F. All exposed fasteners are to be painted to match the canopy color.
- G. Decking is to be aligned and secured to aluminum frame structure.

3.2 Column Footings

- A. Styrofoam blockouts shall be provided by the canopy manufacturer and installed by the General Contractor.
- B. General Contractor shall pour the required concrete foundation size around the Styrofoam blockouts provided by the manufacturer.
- C. Canopy installer is to remove the Styrofoam after footer has cured, set column in cavity, and fill with minimum 2000 psi grout to level of finished concrete slab.
- D. Slab mounting of aluminum columns is allowed upon the architect's approval (if slab mounting resists applicable loading). ½" x 4 ½" Stainless Steel wedge anchors shall be used when slab mounting aluminum columns. Design of attachment surfaces for slab mounting is not covered in this specification and scope of work.
- E. Foundation/Footing design and installation is not covered in this specification and scope of work.

3.3 Cleaning

- A. All canopy surfaces exposed are to be cleaned after installation is complete.
- B. Surplus materials and debris shall be removed from the jobsite after installation is complete.

3.4 Protection

- A. General Contractor shall ensure protection of installed aluminum canopies from other construction so that canopies are without damage at time of substantial completion of project.