**SECTION 10700**

**EXTRUDED ALUMINUM CANOPY SYSTEM WITH INTEGRAL SOFFIT**

**PART 1 GENERAL**

* 1. **RELATED DOCUMENTS:**
1. The bidding requirements, general conditions, supplementary conditions, drawings and
2. requirements of division one specification shall apply to work specified in this section.
	1. **DESCRIPTION OF WORK:**
3. The extent of extruded aluminum canopy is shown on the drawings and as specified herein.
4. Definition: Extruded Aluminum Canopy System shall consist entirely of extruded aluminum sections (roll-formed decking not acceptable). System shall consist of heli-arc welded, rigid structural bents, decking, fascia, accessory items and hardware to provide a complete system.
5. Water shall drain from deck into designated beams and drain as notated in drawings.
	1. **SUBMITTALS:**
6. Shop Drawings: Submit detailed drawings, layout of extruded aluminum canopy system, bent locations (identify drain locations), all mechanical joint locations with complete details, connections, jointing and accessories.
7. Product Data: Submit manufacturer’s product data, specifications, component performance data and installation instructions.
8. Calculations: Provide signed and sealed structural calculations for the canopy, by a professional engineer registered in the state of Texas, who professes his discipline to be structural engineering.
	1. **QUALITY ASSURANCE:**
9. Codes and Standards: Comply with provisions of the following except as otherwise indicated.

Standard Building Code, latest addition with amendments, if any.

AWS (American Welding Society) standards for structural aluminum welding.

1. Manufacturer: Obtain extruded aluminum canopy system from only one (1) manufacturer, although several may be indicated as offering products complying with requirements.
2. Installer Qualification: Firm with not less than five (5) years’ experience in installation of extruded aluminum canopy systems of type, quantity and installation methods similar to work of this section.
3. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication where possible, to insure proper fitting of work. However, allow for adjustments within specified tolerances wherever taking of field measurements before fabrication might delay work.
4. Shop Assembly: Pre-assemble units in shop to greatest extent possible and disassemble as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
5. Coordination: Coordinate work of this section with work of other sections which abut or interface with canopy system. (glazing, building downspouts, façade materials, building cladding, etc.).
	1. **PERFORMANCE REQUIREMENTS:**
6. System Performance: Provide extruded aluminum canopy system that has been designed, fabricated and installed to withstand normal temperature changes as well as live loading, dead loading and wind loading in compliance with Building Code requirements for geographic area in which work is located.
7. Sizes shown on drawings are to be considered minimum unless larger sizes are required to meet applicable code.
8. Structure shall be designed to resist wind loads, roof live loads (including concentrated load such as being walked upon), dead loads, snow loads, rain loads, seismic loads and wind-on-ice loads.

**PART 2 PRODUCT**

* 1. **ACCEPTABLE MANUFACTURERS:**
1. Canopy Solutions, LLC - Contact estimating at sales@canopy-solutions.com 713-510-3800
2. Equivalent systems by other manufacturers will be approved by addendum provided the following are submitted ten (10) days prior to bid opening and are complete:
3. Submit evidence of having operated a successful business of

manufacturing and installing complete extruded aluminum canopy systems.

1. Business must have been in operation under submitted name and ownership for a minimum of ten (10) years.
2. Submit a list of successfully completed projects of similar scope, size and complexity within the state of Texas as required by design team.
3. Comply with the requirements pertaining to substitution as set forth in Division One, Section \_\_\_\_\_\_\_\_, Instruction to Bidders.
	1. **MATERIALS:**
4. All aluminum extrusions shall be 6063 or 6061 alloy heat treated to a T-6 temper:
5. Framing: 6” X 6” extruded aluminum gutter beams with welded angle clips to support 1-1/2” X 16-gauge min. hat sections.
6. Decking: 2-3/4” X 6” X .078” th. min. extruded aluminum corrugated decking
7. Soffits: MBCI or equal pre-finished Kynar coated sheet metal. 12” wide panels attached to 16 ga min. galvanized hat sections. Minimum soffit panel thickness to be 24-gauge steel or .032” th. aluminum.
8. Fascia: Flat aluminum 5052 alloy sheet .063 to .125 thickness depending on height:
	1. Thickness:
		1. .063” th. min. to accommodate up to 18” vertical fascia height max
		2. .080” th. to accommodate up to 24” vertical fascia height max
		3. .125” th. for custom fascia applications with over 24” vertical fascia height
		4. 6MM ACM fabricated as required per drawings
9. Connections: 7” X 7” wall brackets and canopy mounting brackets are to be extruded aluminum.
10. Hardware: Nuts, bolts, washers, pins, and anchors to be stainless steel or galvanized. Pipe compression sleeves (if required) for building wall attachments to be extruded aluminum. All items shall be sized and specified as required to suit application and per pre-engineered canopy load reactions.
11. Fasteners:
	1. Deck Screws – as sized for local wind and load requirements (rivets not permitted)
12. Fascia Screws or Rivets: #12, decorative 18-8 non-magnetic stainless steel or size 3/16” by ½” grip range aluminum rivets with aluminum mandrel.
13. Bolts: All bolts, nuts and washers to be 18-8 non-magnetic stainless steel.
14. Tek Screws: as required
15. Flashing and sealant: Shall be minimum 0.040-inch aluminum, fabricated to prevent leakage and sealed with Vulkem 116 sealant in gray or color match. Other equivalent sealants are acceptable upon substitution.
16. All listed finishes comply with the standards set forth by the American Architectural Manufacturers Association.
17. AAMA 611 CLASS I CLEAR ANODIC FINISH (ANO-215R1)

AA-M12C22A41 (Nonspecular, medium etched matte finish with clear anodic coating .7 mils or thicker)

1. AAMA 611 Class II Clear Anodic Finish (ANO-204R1)

AA-M12C22A31 (Nonspecular, medium etched matte finish with clear anodic coating .4 to .7 mils thick)

1. Polyester Baked Enamel: Finish conforming to the AAMA 2603-15 Voluntary Specification and Performance Requirements for Pigmented Organic Coatings on Aluminum Extrusions. Chemical pretreatment to allow finish and gloss to comply with performance requirements set forth by the AAMA spec. Baked enamel applied to manufacturer’s specifications for cleaning, conversion coating, and application.
2. High Performance Organic Finish: Single coat Super Durable powder finish complying with AAMA 2604-15 Voluntary Specification and Performance Requirements for High Performance Organic Coatings on Aluminum Extrusions. Coating must contain no less than 100% Super Durable Polyester resin. Chemical pre-treatment to conform with ASTM D 5723. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
3. Superior Performance Organic Finish: Single coat Fluoropolymer powder finish complying with AAMA 2605-15 Voluntary Specification and Performance Requirements for Superior Performance Organic Coatings on Aluminum Extrusions. Coating must contain no less than 100% FEVE (fluorinated ethylene vinyl ether) resin. Chemical pre-treatment to conform with ASTM D 1730. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
4. Superior Performance Organic Finish: 2 or 3 coat Liquid Fluoropolymer coatings complying with AAMA 2605-15 Voluntary Specification and Performance Requirements for Superior Performance Organic Coatings on Aluminum Extrusions. Chemical pre-treatment to conform with ASTM D 1730. Minimum 70 percent Kynar 500® FSF® PVDF resin, by weight, in color coat (with clear coat if required). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
5. Warranty:
6. Manufacturer shall warrant the entire system against defects in labor and materials for a period of one (1) year commencing on the date of substantial completion as established in Division One of these specifications.
7. Intention of this warranty is the manufacturer will come onto the jobsite and do all necessary to effect corrections of any deficiencies.
8. Prima Facie Evidence of defects in labor and material may include but is not limited to, one or more of the following:
	1. Moisture Leaks
	2. Metal failure including excessive deflection
	3. Fastener failure
	4. Finish failure
	5. **FABRICATION:**
9. Comply with indicated profiles, dimensional requirements and structural requirements.
10. Use sections true to details with clean, straight sharply defined profiles and smooth surfaces of uniform color and texture, free from defects impairing strength and durability.
11. All welding to be done by heli-arc process.
12. Mechanical joints shall consist of stainless-steel bolts with a minimum of two (2) bolts per fastening. Bolts and nuts shall be installed in a concealed manner utilizing ½” thick by 1 ½” aluminum bolt bars welded to structural members. All such mechanical joints must be detailed on shop drawings showing all locations.
13. Roof Deck: Extruded aluminum shapes, interlocking self-flashing sections. Shop fabricate to lengths and panel widths required for field assembly. Depth of sections to comply with structural requirements. Provide shop induced camber in deck units to offset dead load deflections as required to meet job specific loads. Internal dams are to be used at non-draining ends of deck.
14. Expansion joints, design structure for thermal expansion and contraction. Provide expansion joints as required.

**PART 3 EXECUTION**

* 1. **DELIVERY, STORAGE AND HANDLING:**
1. Deliver, store and handle extruded aluminum canopy components as recommended by manufacturer. Handle and store in a manner to avoid deforming members and to avoid excessive stresses.
	1. **EXAMINATION:**
2. Examine adjacent work for conditions that would prevent quality installation of system.
3. Do not proceed until defects are corrected.
	1. **FIELD DIMENSIONS:**
4. General contractor shall field confirm bent locations, dimensions and elevations shown on shop drawings prior to fabrication.
	1. **INSTALLATION:**
5. Erection: Set roof support frames (bents) into pockets provided in top of footings; set to required elevations, align, plumb, and level; and grout in place with high strength grout. Assure that grout fills all voids and “keys” to columns. Fill downspout units with grout to bottom of discharge level. Follow manufacturer’s instructions. Match to finish and elevation of adjacent sidewalks.
6. Install roof deck sections, accessories and related flashing in accordance with manufacturer’s instructions. Provide roof slope for rain drainage without ponding water. Align and anchor roof deck units to structural support frames.
7. Assemble all components in a neat, workmanlike manner.
	1. **CLEANING AND PROTECTION:**
8. Damaged Units: Replace roof deck panels and other components of the work which have been damaged or have deteriorated beyond successful minor repair.
9. Cleaning: Remove protective coverings at time in project construction sequence which will afford greatest protection of work. Clean finished surfaces as recommended by manufacturer. Maintain in a clean condition during construction.
10. Protection: Advise Contractor of protection and surveillance procedures, as required to ensure that work of this section will be without damage or deterioration at time of substantial completion.

END OF SECTION 107300