

SECTION 105300 - PROTECTIVE COVERS**PART 1 - GENERAL:****1.1 GENERAL:**

- A. This section specifies prefabricated overhead structures as shown on drawings and details. Provide systems engineered to comply with load requirements of local codes (design live loads, wind loads, etc.).
 - 1. **Manufacturer shall be responsible for the design of structural members required to meet job conditions.**
 - 2. Unless noted or detailed otherwise, canopies are to be building supported structures, overhead braced, complete with wall-to-roof flashing, gutter, drainage beams and downspouts located against building face.
- B. Submittals: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
 - 1. Product Data: Submit manufacturer's product information, specifications and installation instructions for components and accessories.
 - 2. Shop Drawings: Submit complete erection drawings showing attachment system, column and gutter beam framing, transverse cross sections, covering and trim details, and optional installation details to clearly indicate proper assembly of components, sealed by a State Registered Structural Engineer registered in the state in which the work is being performed.
 - 3. Calculations: Submit complete structural design calculation sealed by State Registered Structural Engineer registered in the state in which the work is being performed.
 - 4. Design and engineering of attachment surfaces are not covered in this specification and scope of work.
 - 5. Samples: Submit color selector of manufacturer's standard choices.
- C. Quality Assurance: Installers shall be company having a minimum of five years' experience installing prefabricated protective covers similar in extent.
 - 1. Welding: Qualify procedures and personnel according to the following:
 - a. AWS D1.2, "Structural Welding Code--Aluminum."
 - 2. Warranty: Provide manufacturer's warranty against aluminum panels containing manufacturing defects causing peeling, blistering, flaking, splitting, rusting, chipping, or cracking.
 - a. Warranty Period: Five Years.
- D. Field Measurements: Where fabrications are indicated to fit walls and other construction, verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- E. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- F. Delivery: Deliver, store and handle canopy components as recommended by manufacturer.

PART 2 - PRODUCTS**2.1 MANUFACTURER:**

- A. Manufacturers: Subject to compliance with specifications, provide products as manufactured by the following company (or approved equal):
 - 1. American Aluminum Products Inc.
 - 2. Mapes Architectural Canopies, LLC
 - 3. Tennessee Valley Metals.
- B. Supports:

1. Building Protective Covers: Unless noted otherwise, rear anchored to building structure with leading edge supported from columns.

C. Panel Profile: Extruded aluminum deck with integral drainage.

2.2 MATERIALS:

A. Provide aluminum extrusions, sheeting and hardware as follows:

1. Aluminum Extrusions: Alloy 6061-T6, 6063-T6 as called for by profile design.
2. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, alloy 6061-T6.
3. Aluminum Sheeting: Roll formed roof panels alloy 3005 H-28. Minimum yield 30,000 KSI or equal.

B. Hardware: Manufacturers standard stainless steel.

C. Sealants, Flashing and other non-structural items: As provided or recommended by manufacturer.

D. Fasteners: Provide Type 304 or 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, where built into exterior walls. Select fasteners for type, grade, and class required.

2.3 FINISHES:

A. High-Performance Organic Finish, Two-Coat PVDF: Fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat.

1. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
2. Color and Gloss: As selected by Architect from manufacturer's full range.

2.4 FABRICATION

A. General: Assemble components in shop to greatest extent possible to minimize field assembly.

B. Welding: In accordance with ANSI/AWS D1.2.

C. Bent Construction: Factory weld beams to columns with neatly mitered corners to form one-piece rigid bents. Make welds smooth and uniform using an inert gas shielded arc. Perform suitable edge preparation to assure 100% penetration. Grind welds only where interfering with adjoining structure to allow for flush connection. Field welding is not permitted. Rigid mechanical joints may be used only if fully welded bents cannot be shipped on local, state, or federal highways without a special permit from the department of transportation.

D. Beams: Provide open-top tubular extrusion, top edges thickened for strength and designed to receive deck members in self-flashing manner. Provide structural ties in tops of all beams.

E. Deck Construction: Fabricate from aluminum extruded shapes into interlocking sections in a self-flashing manner. Positively fasten interlocking joints at 8 inches on center creating a monolithic structural unit capable of developing the full strength of the sections. The fastenings must have minimum shear strength of 350 pounds each. Assemble deck with sufficient camber to offset dead load deflection.

F. Fascia: Manufacturer's standard shape with integral drainage provisions. Provide fascia splices where continuous runs of fascia are jointed. Locate splices to be in line with bents and fasten in place on hidden or non-vertical surfaces.

1. Downspouts: Provide downspouts from integral gutters and tie into new or existing storm drainage as indicated on drawings. Coordinate tie-in with downspout design.

G. Where lighting is shown surface mounted to underside of deck, provide manufacturer's standard framing required to support fixture and conceal electrical rough-in, without compromising the integrity of the canopy deck. Coordinate location and type of fixtures and rough-in requirements with electrical drawings.

PART 3 - EXECUTION:**3.1 INSPECTION:**

- A. Prior to start of work, verify that surrounding conditions are acceptable for installation of protective cover.
- B. Contractor shall field confirm dimensions and elevations as shown on architectural drawings prior to fabrication.

3.2 INSTALLATION:

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors.
 - 1. All surfaces abutting the exterior walls shall be properly flashed to prevent passage of water between the canopy and building.
 - 2. Set reglets or other counterflashing receivers in exterior wall construction as the work progresses. Contractor shall coordinate with other trades required anchorage requirements and sequence of construction.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- E. Installation: Install prefabricated protective covers with fasteners connectors, and sealants in strict accordance with structure manufacturer's instructions and approved shop drawings.

END OF SECTION 105300