

SECTION 10820 - EXTRUDED ALUMINUM EXTERIOR COVER

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

The extent of the Extruded Aluminum Exterior Cover is shown on the drawings and is hereby defined to include all walkway covers of the type shown and specified herein.

Related work specified elsewhere:

Structural Drawings
Section 16000 - Electrical

QUALITY ASSURANCE:

Reference: Products and execution specified in this section by reference to the following Industry and/or Trade specifications or standards:

National Association of Architectural Metal Manufacturers.
The Aluminum Association, Inc.

The work specified in this section shall provide a complete factory fabricated system including all accessories, fasteners and custom shapes as may be required to complete the work.

Installer: A firm with not less than 2 years of successful experience in the installation of extruded aluminum covered walkway systems. Submit a list of successfully completed aluminum covered walkway systems erected within the state of Florida, of similar size and complexity, complete with names, titles, addresses and telephone number of knowledgeable representatives of the Owners of such facilities.

SUBMITTALS:

Shop Drawings:

Submit complete shop drawings depicting in floor plan, elevation, section and detail, all aluminum covered walkway work to be included in the work. Depict necessary dimensions, sizes, thicknesses, gauges, configurations and finishes of aluminum extrusions and flashings. Show direction of water flow.

Submit complete details with structural properties (Moment of Inertia, Section Modulus, Modulus of Elasticity, etc.) of all beams, columns, decks and other structural members.

Submit complete structural calculations of the proposed aluminum covered walkways, signed and sealed by a specialty professional engineer registered in the State of Florida, indicating accommodation of "Design Criteria" article of this Section.

Submit samples of the following:

- Finishes.
- Extrusions.

DELIVERY AND STORAGE:

Comply with the manufacturer's recommendation as to handling, delivery and storage of materials. Aluminum covered walkway materials shall be stored free of the earth, slab or floor in a dry place free from risk of damage.

GUARANTEE:

The aluminum walkway manufacturer and the installer shall provide a written guarantee, signed by the manufacturer and installer, which shall guarantee the entire installation against defects in materials and workmanship, including structural integrity and watertightness, for a period of two (2) years commencing on the date of substantial completion. All repairs necessary to correct such defects in materials and workmanship during this period shall be made at no cost to the Owner.

Prima facie evidence of defects in material or workmanship may include, but is not limited to, one or more of the following:

- Leaks.
- Metal failure including excessive deflection.
- Fastener failure.
- Finish failure.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Standards: For the purpose of designating type and quality for work under this section, drawings and specifications are based on products manufactured by:

Dittmer Architectural Aluminum
1006 Shepard Road
Winter Springs, Florida 32708
(407) 699-1755

Acceptable manufacturers, subject to compliance with these specifications, are:

American Walkway Covers
Architectural Metal Systems
Peachtree Protective Covers, Inc.
Perfection Architectural Systems, Inc. (with interlocked facia).

DESIGN CRITERIA:

The structural members and roof deck shall be designed, fabricated and installed in a manner to comply with windloads of 120 mph, 35 psi live load, and requirements of ASCE 7- with a 1.0 Importance Factor.

Fascia shall be secured to the roof deck directly to the deck at the bottom of the fascia, and by 0.080 inch thick by 1" wide aluminum tieback straps spaced at 4'-0" c.c. (One rivet spaced at each end of strap.)

Structure shall be capable of sustaining concentrated load such as being walked upon.

Safety factor: From ultimate strength assuming yield point at 31,000 psi and ultimate strength at 35,000 psi, with $F_b = 13.5$ ksi tension and compression non-welded, and 9.77 ksi welded. All design stress and safety factors shall be in accordance with recommendations made by A.S.C.E. Paper #3342.

MATERIALS:

General: All sections shall be extruded aluminum alloy, heat-treated to a T-6 temper.

Finish: Roof deck, bents, fascia and miscellaneous members shall have a clear satin anodize finish (204-R1) as per AA-M10 C22 A21.

Fastenings:

Deck screws (do not use rivets): Type 18-8 stainless steel, sealed with neoprene "O" ring beneath conical washers.

Fascia rivets: Size 3/16" by 1/2" grip range, aluminum rivets, with aluminum mandrel.

Bolts: Stainless steel, 18-8, of 5/8" or 1/2" size as necessary for structural requirements.

Bent construction:

Understructure, anodized beams and columns in sizes shown and required by design criteria, shall consist of shop heli-arc welded into rigid, one piece units.

Column ends shall be "flared" or base plate and properly grouted to obtain required uplift protection. Provide a shop applied dip-coat of clear acrylic enamel to insulate each column end from electrolytic reaction with grout.

Grout shall be non-shrink 3:1 Portland Cement to masonry sand with minimum of 3000 psi at 28 days compressive strength.

Roof deck: Extruded, self-flashing deck sections interlock into a composite unit equal to design properties and section modulus of "Ditdeck Spread 80", spanning at least two bays. Deck shall be staked into a camber sufficient to offset deadload (dl) deflection and to cause positive drainage on spans over 15'-0". Staking shall consist of an abrupt local deformation of deck-lock metal, each stake having a shear value in excess of 350 lbs. and shall occur as detailed on shop drawings.

Roof deck shall have minimum 0.080 thickness.

Internal drainage: Water flow shall be directed from deck to beams to "wet columns" for discharge at ground level. Number and location of "wet columns" as required for uniform water discharge system and shall comply with the overall stormwater management system.

Light fixtures: See Division 16 specifications for light fixtures.

Light fixture to be furnished and installed by Electrical Contractor.

PART 3 - EXECUTION

FIELD DIMENSIONS: Contractor shall field-confirm bent location dimensions and elevations as shown on shop drawings prior to fabrication by manufacturer.

ERECTION:

Sleeves (styrofoam block-outs) shall be furnished by manufacturer and set under Division 03. Dittmer, or authorized installer, shall be scheduled to erect after all adjacent roofing and masonry have been completed. Concrete footings, anchor bolts and/or flashing, where required, shall be by others. Bents shall be carefully aligned prior to grouting; downspout column interiors shall be grouted to lower edge of "weep hole"; deflectors shall be installed after grouting. All deck ends at beam joints shall be capped as detailed. Butt and miter joints shall be executed in a workmanlike manner.

All columns shall be set true and plumb. All bents shall be set true and level. Elevations of top bents shall be as designated on the drawings (as may be otherwise required) to provide the required deck slope.

All fascia cuts shall be accurately made and tightly fit.

PROTECTION: Exercise care in handling and installation to prevent scratching or marring of the finish. Any sections that are scratched are to be touched-up. If damage cannot be repaired in an acceptable manner, components must be replaced. Cost of replacement to be paid by Contractor responsible for damage.

All adjacent trades (trowel trades, painting, roofing, etc.) shall complete their work prior to commencement of walkway cover installation.

END OF SECTION 10820