

SECTION 07 61 00
PREFORMED METAL COVERS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This section covers the pre-finished, pre-fabricated Architectural Column, and Beam Cover systems and Fascia system. All metal trim, accessories, fasteners, insulation and sealants indicated on the drawings as part of this section.
- B. Drawings and general provisions of the Contract, including general and Supplementary Conditions and Division 01 Specifications, apply to this section.

1.2 SUMMARY

- A. Section Includes
 - 1. Factory formed metal covers.

1.3 RELATED WORK

Specified Elsewhere:

- 1. Section: 01 81 11 SUSTAINABLE DESIGN REQUIREMENTS
- 2. Section: 05 40 00 COLD FORMED METAL FRAMING
- 3. Section: 06 10 00 ROUGH CARPENTRY
- 4. Section: 07 21 13 THERMAL INSULATION
- 5. Section: 07 27 00 AIR BARRIERS
- 6. Section: 07 60 00 FLASHING AND SHEET METAL

1.4 DEFINITIONS

- A. Metal Column and Beam Cover Assembly, and Fascia assembly: attachment system components, miscellaneous metal framing, thermal, and accessories necessary for a complete weathertight cover system.
- B. References:
 - 1. American Society for Testing and Materials (ASTM)
 - a. ASTM A 653: Steel Sheet, Zinc Coated by the Hot Dip Process
 - b. ASTM A 792: Steel Sheet, Aluminum-Zinc Alloy Coated by the Hot Dip Process
 - c. ASTM B 209: Aluminum and Aluminum Alloy Sheet and Plate
 - d. ASTM B370 Standard Specification for Copper Sheet and Strip for Building Construction
 - 2. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

- a. SMACNA Architectural Sheet Metal Manual, 1993 edition
- 3. American Iron and Steel Institute (AISI)
 - a. AISI Cold Formed Steel Design Manual
- 4. Aluminum Association
 - a. Aluminum Design Manual
- 5. Metal Construction Association
 - a. Preformed metal Wall Guidelines
- 6. Code References
 - a. ASCE, Minimum Loads for Buildings and Other Structures
 - b. BOCA National Building Codes
 - c. UBC Uniform Building Code
 - d. SBC Standard Building Code

1.5 QUALITY ASSURANCE

- A. Manufacturer and erector shall demonstrate experience of a minimum of five (5) years in this type of project.
- B. Panels shall be factory-produced only. No portable, installer-owned or installer-rented machines will be permitted.

1.6 SUBSTITUTIONS

- A. The material, products and equipment specified in this section establish a standard for required function, dimension, appearance and quality to be met by any proposed substitution.

1.7 SYSTEM DESCRIPTION

- A. Material to comply with:
 - 1. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate

1.8 ROOF SYSTEM PERFORMANCE TESTING

- A. General Performance: Metal covers shall comply with performance requirements without failure due to defective manufacture, fabrication, installation or other defects in construction.
- B. Metal cover systems shall be designed to meet Standard Building Code Wind Load requirements.
- C. Covers to meet:
 - 1. Water Penetration: When tested per ASTM E-283/1680 and ASTM E-331/1646 there shall be no uncontrolled water penetration or air infiltration through the panel joints.
 - 2. UL 2218 - Impact Resistance rated.

1.9 WARRANTIES

- A. Finish warranty: Manufacturer's standard form in which manufacturer agrees to repair finish or replace covers that show evidence of deterioration of factory-applied finish within specified warranty period.
 - 1. Exposed Panels Finish - deterioration includes the following:
 - a. Color fading more than 5 hunter units when tested according to ASTM D 2244
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214
 - c. Cracking, checking, peeling or failure of a paint to adhere to a bare metal.
 - 2. Warranty Period: 20 Years from the date of substantial completion
- B. Applicator shall furnish written warranty for a two (2) year period from date of substantial completion of building covering repairs required to maintain covers and flashings in watertight condition.

1.10 SUBMITTALS

- A. Furnish detailed drawings showing profile and gauge of exterior sheets, location and type of fasteners, location, gauges, shape and method of attachment of all trim locations and types of sealants, and any other details as may be required for a weather-tight installation.
- B. Provide finish samples of all colors from manufacturer's full range.
- C. Shop drawings: Show fabrication and installation layouts of metal column covers, details, anchorages, trim, flashings, closures and accessories, and special details. Distinguish between factory and field-assembled work
- D. Coordination Drawings: plans, drawn to scale, on which the following are shown and coordinated with each other, based on input from installer of the items involved:
 - 1. Column Covers and attachments
 - 2. Beam Covers and attachments
 - 3. Fascia Covers and attachments

1.11 DELIVERY, STORAGE AND HANDLING

- A. Ordering: Comply with manufacture's ordering instruction and lead time requirements to avoid construction delays.
- B. Deliver components, sheets, metal covers and other manufactured items so as not to be damaged or deformed. Package metal column covers for protection during transportation and handling.
- C. Unload, store and erect metal column covers in a manner to prevent bending, warping, twisting and surface damage.
- D. Stack metal covers on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal covers to ensure dryness. Do not store metal covers in contact with other materials that might cause staining, denting or other surface damage.
- E. Protect strippable protective coating on any metal coated product from exposure to sunlight and high humidity, except to the extent necessary for material installation.

1.12 PROJECT CONDITIONS

- A. Weather Limitations: proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed.
- B. Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.13 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports and roof penetrations with actual equipment provided.
- B. Coordinate metal roof panels with rain drainage work, flashing, trim and construction of decks, parapet walls and other adjoining work to provide a leakproof, secure and noncorrosive installation.

PART 2 - PRODUCTS

2.1 PANEL DESIGN

- A. General: Provide factory-formed metal covers designed to be installed by interconnecting edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates and accessories required for a weathertight installation.
- B. Panels to be produced Smooth - Factory Standard.

- C. Panels to be designed for attachment with concealed fastener clips, spaced as required by the manufacturer to provide for both positive and negative design loads, while allowing for the expansion and contraction resulting from variations in temperature.

2.2 ACCEPTABLE MANUFACTURERS

- A. Basis of design, Aluminum Corporation Petersen Aluminum Corp, Elk Grove Village, IL, 800-323-1960, or approved equal.
- B. Basis of design, PAC 1000F (Flush Joint) or an approved equal.

2.3 MATERIALS AND FINISHES

- A. Preformed metal covers shall be fabricated of .125 Aluminum
- B. Color shall be from Pac Clad or approved equal single source supplier - full range of colors
- C. Finish shall be Kynar 500 or Hylar 5000 Fluorocarbon coating with a top side film thickness of 0.70 to 0.90 mil over a 0.25 to 0.3 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mil, to meet AAMA 621. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesions, flexibility and longevity as specified by Kynar 500 or Hylar 5000 finish supplier.
- D. If Strippable coating to be applied on the pre-finished panels to the top side to protect the finish during fabrication, shipping and handling, film shall be removed before punch-listing.
- E. Trim: Trim shall be fabricated of the same material and finish to match the profile, and will be press broken in lengths of 10 to 12 feet. Trim shall be formed only by the manufacturer of their approved dealer. Trim to be erected in overlapped condition. Use lap strips only as indicated on drawings. Miter conditions shall be factory welded material to match the sheeting.
- F. Closures: use composition or metal profiled closures at the top of each elevation to close ends of the panels. Metal closures to be made in the same material and finish as face sheet.
- G. Fasteners: Fasteners shall be of type, material, size, corrosion resistance, holding power and other properties required to fasten miscellaneous framing members to substrates.
- H. Sealants
 - 1. Provide two-part polysulfide class B non-sag type for vertical and horizontal joints or

2. one part polysulfide not containing pitch or phenolic extenders or
3. Exterior grade silicone sealant recommended by manufacturer.

2.4 FABRICATION

- A. Comply with dimensions, profile limitations, gauges and fabrication details shown and if not shown, provide manufacturer's standard product fabrication.
- B. Fabricate components of the system in factory, ready for field assembly.
- C. Fabricate components and assemble units to comply with fire performance requirements specified.
- D. Apply specified finishes in conformance with manufacturer's standard, and according to manufacturer's instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal column cover supports, and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance of the Work.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.
- B. Miscellaneous Framing: Install miscellaneous metal column cover support members and anchorage according to metal cover manufacturer's written recommendations.

3.3 METAL COVER INSTALLATION, GENERAL

- A. General: Anchor metal covers and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Field cutting of metal covers by torch is not permitted.
- B. Fasteners:
 1. Place fasteners as indicated in manufacturer's standards.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-

asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal cover manufacturer.

- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.

3.4 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.

3.5 INSTALLATION

- A. Panels shall be installed plumb and true in a proper alignment and in relation to the structural framing. The erector must have at least five years successful experience with similar applications.
- B. Install metal covers, fasteners, trim and related sealants in accordance with approved shop drawings and as may be required for a weather-tight installation.
- C. Remove all strippable coating and provide a dry-wipe down cleaning of the covers as they are erected.

3.6 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal covers that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

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