

SECTION 074293 - EXTRUDED ALUMINUM WALL PANELS**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Extruded metal wall panel cladding installed using a “drained back ventilated rainscreen” method of installation, relying on air/moisture barrier behind panels to provide secondary moisture management and drainage to the exterior.
2. Trim and accessories to complete installation.

1.2 PREINSTALLATION MEETINGS**A. Preinstallation Conference: Conduct conference at project site.**

1. Meet with Contractor, Architect, metal wall and/or soffit panel Installer, metal wall panel manufacturer's representative, and related parties.
2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review methods and procedures related to metal wall and/or soffit panel installation, including manufacturer's written instructions.
4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
5. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that affect metal material panels.
6. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
7. Review procedures for repair of panels damaged after installation.
8. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.3 ACTION SUBMITTALS**A. Product Data: For each type of product.**

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of cladding and accessory.

B. Shop Drawings as required:

1. Include fabrication and installation layouts of metal cladding; details of edge conditions, joints, cladding profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
2. Accessories: Include details of flashing, trim, and anchorage systems, at a scale of not less than 1- 1/2 inches per 12 inches.

C. Samples:

1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns (typical 3”x6”). Include:
 - a. Similar Samples of trim and accessories involving color selection (typical 6” length).
 - b. Attachment accessories including clips, retainers and other means of attaching wall panels.

D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.4 INFORMATIONAL SUBMITTALS

- A. Sample Warranties.
- B. Submit sustainability documentation for recycled content and other pertinent attributes in support of project's sustainability goals.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal cladding to be included in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by the manufacturer.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockup of typical wall as indicated on Drawings; approximately four units wide (such as four 6" planks), including attachments and accessories.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, aluminum planks, and other manufactured items so as not to be damaged or deformed. Package aluminum planks for protection during transportation and handling.
- B. Unload, store, and erect aluminum planks in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack planks horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store planks to ensure dryness, with positive slope for drainage of water. Do not store planks in contact with other materials that might cause staining, denting, or other surface damage.

1.8 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of aluminum plan to be performed in accordance with manufacturers' written instructions and warranty requirements.

1.9 COORDINATION

- A. Coordinate plank installation with rain drainage work, flashing, trim, construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal cladding systems that fail in materials or workmanship within specified warranty period. Warranty terms and conditions, found in Lumabuilt warranty, apply.
 - 1. Failures include, but are not limited to, the following:
 - 2. Buckling not associated with the substrate and/or structure to which the Mosaic system is attached. Defined as 1/16" out of plane per linear foot.

- B. Warranty on Cladding Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal cladding that show evidence of deterioration of factory-applied finishes within specified warranty period.
1. Woodgrain Finish Standard Deterioration includes, but is not limited to, the following:
 - a. Color Retention: Color fading more than 5 units from the original color, when tested in accordance with ASTM D2244.
 - b. Gloss Retention: The coated surface will exhibit gloss retention to a minimum of 30% from the original gloss.
 - c. Chalking Resistance: Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - d. Checking and Cracking: There will be no clearly visible checking or cracking of the painted finish on the products installed on the building.
 - e. Paint Adhesion: Adhesion of Painted Finish when initially applied to test panels and measured by reference to AAMA 2604-02; Clause 7.4.2 will show no evidence of film removal.
 - f. Finish Warranty Period: Standard 15 years.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal cladding systems capable of withstanding the effects of the following loads, based on testing in accordance with AAMA 1402 (static pressure testing).
1. Wind Loads: As indicated on Drawings or as required to meet applicable building codes.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- C. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
- D. Flame Spread: Meets ATM E84, Class A.

2.2 METAL WALL OR SOFFIT CLADDING

- A. Provide metal wall or soffit claddings designed to be installed by interconnecting side edges of adjacent cladding and mechanically attaching through cladding clips to supports using concealed fasteners into the side lap clips. Include accessories required for a complete rainscreen system.
- B. Metal Wall Cladding: Extruded shapes with v-groove joints as indicated.
1. Acceptable Manufacturer and Product: Lumabuilt Mosaic (Alumaboard); www.lumabuilt.com.
 2. Substitutions: Submit in accordance with Section 016000.
- C. Materials: Extruded aluminum meeting ASTM B221, Alloy 6063-T6, of 0.063 inch thickness nominal.
1. Standard Panel Length: 24 feet (7.2 M).
 2. Panel Thickness: 1/2 inch (12 mm).
 3. System Depth: 5/8 inch (16 mm).
- D. Size and Joint Configuration:
1. 6 inch (150 mm) wide V groove

2.3 MISCELLANEOUS MATERIALS

- A. Panel Attachment Clips: Stainless steel with not less than 14% chromium content, alloy 304-2b (1/4 hard), 0.035 inch (0.889 mm) thickness.
- B. Miscellaneous Metal Sub framing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated.
- C. Cladding Accessories: Provide components required for a complete cladding system including trim, clips, sealants, and similar items. Match material and finish of metal cladding unless otherwise indicated.
- D. Flashing and Trim: Provide aluminum flashing as required to seal against weather and to provide finished appearance. Match material and finish of metal cladding unless otherwise indicated.
- E. Cladding Fasteners: Screws (#8 screws) designed to withstand design loads.

2.4 FABRICATION

- A. Fabricate and finish metal cladding and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Sheet Metal Flashing: Fabricate flashing and trim to comply with manufacturer's written instructions and recommendations.

2.5 FINISHES

- A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable. Noticeable variations in same piece are acceptable and typical.
- B. Aluminum Panels, Soffits or Accessories:
 - 1. Pretreatment: Chrome Free five stage aluminum pretreatment system. Complies with AAMA 2603 AAMA 2604 and AAMA 2605 Superior Performance Standard and meets EPA, OSHA, State and Local environmental requirements and contains no chromates, cyanides or other heavy metals. Waste treatment is usually a simple pH neutralization and disposal to the sanitary sewer.
 - 2. Wood Grains: Premium wood finishes using a polyurethane powder coat with ink-based wood grain patterns sublimated into the base powder. The combined effect creates all the aesthetic aspects of real wood.
 - a. Color: As selected from manufacturers standard finish options.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal cladding supports, and other conditions affecting performance of the Work.
 - 1. Examine framing to verify that girts, angles, channels, studs, and other structural cladding support members and anchorage have been installed within alignment tolerances of 1/4" within 20 feet, as required by metal cladding manufacturer.
 - 2. Examine sheathing to verify that sheathing joints are supported by framing or blocking, and that installation is within flatness tolerances required by metal cladding manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal cladding to verify actual locations of penetrations relative to seam locations of metal cladding before installation.

- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Supports (by others): Install sub framing, furring, and other miscellaneous cladding support members and anchorages in accordance with ASTM C754 (standard specification for steel framing) and metal cladding manufacturer's written recommendations.

3.3 INSTALLATION

- A. Install metal cladding in accordance with manufacturer's written instructions in orientation, sizes, and locations indicated. Install cladding perpendicular to supports unless otherwise indicated. Anchor metal cladding and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Shim or otherwise plumb substrates receiving metal cladding.
 - 2. Flash and seal metal cladding at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal cladding are installed.
 - 3. Install trims according to manufacturer's guidelines.
 - 4. Install planks using stainless steel fastening clips and #8 screws, in accordance with manufacturer's guidelines, hard pinning in certain conditions may be required.
 - 5. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 6. Install flashing and trim as metal cladding work proceeds.
 - 7. Provide weathertight escutcheons for pipe- and conduit-penetrating cladding.

3.4 CLEANING AND PROTECTION

- A. On completion of metal cladding installation, clean finished surfaces as recommended by metal cladding manufacturer. Maintain a clean condition during construction
- B. Replace metal cladding that has been damaged or has deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074213