

SECTION 07 42 13 ALUMINUM COMPOSITE PANEL SYSTEM

PART 1 - GENERAL

1.01 - References

A. The General Conditions, as may be listed in the table of contents, shall be included in and made part of this section.

1.02 - Scope of Work

A. Furnish all labor and materials necessary to complete all aluminum composite building panels including interior and exterior column covers indicated on the project drawings and as specified herein.

B. Composite building panels are hereby defined as the composite aluminum panels including the rout and return wet seal system fabricated by:

AFC, Inc.
Shaffner Heaney Associates, Inc.
SGH, Inc.

Or approved equal.

C. The work of this section consists of exterior metal soffit and fascia. Matching flashing at roof line (if required) shall be by metal panel supplier fabricated & installed by the roofing sub-contractor.

D. Perimeter sealant for a complete panel system shall be a part of this section. Sealant to be Dow 756 SMS supplied and installed by the panel installer. Color to be Gray.

E. Field measurements shall be taken with a FARO Digital Measuring Device incorporating into CAD format for precise panel fabrication and fit.

E. Metal stud framing, plywood, insulation and building wrap required for the panel wall is to be supplied and installed under the related specification.

1.03 - Related Work Under Other Sections

A. The following items of related work, specified in other sections, are not included.

1. Plywood.
2. Metal Stud Framing System.
3. Weather Barrier Building Wrap.
4. Aluminum Curtainwall; Window Frames.
5. Glass and Glazing.
6. Insulation and Siding.
7. Caulking and Sealants, except as noted in 1.02.D. above.

1.04 - Submittals

A. Shop Drawings: Submit complete shop drawings of all work of this section through the general contractor for approval, including large scale details of construction and showing method of installation and attachment to the building's supporting structure.

B. Submit samples of typical aluminum composite panels, of type, thickness and finish specified.

- F. Submit panel manufacturer's product data, consisting of complete product description and specification.

1.05 - Performance

A. This is a performance specification; panel systems that are not in compliance with the required performance standards listed herein are unacceptable. Note: The listing of a product name, system, or fabricator does not constitute approval unless all performance criteria are met.

B. Structural Deflection: Deflection of perimeter framing members shall not exceed L/175 of span length and L/60 of unsupported center of panel; and there shall be no permanent set in excess of .100 inches per ASTM E330..

1.06 - Quality Assurance

A. The panel system fabricator shall be approved by the panel manufacturer.

B. Panel system fabricator/installer shall have a minimum of ten (10) year experience.

- G. The panel system fabricator/installer shall be responsible for a complete, sealed and weather-tight installation.

D. The panel system fabricator/installer will prepare the shop drawings in accordance with their standard published product data and criteria established by others.

1.07 - Product Delivery, Storage & Handling

A. Materials shall be stored in interior spaces or above ground under protective and ventilated covers.

B. The subcontractor shall be responsible for proper storage and handling. Extra protective measures shall be taken to assure that panel edges are secured from damage at all times.

1.08 - Coordination

A. The general contractor and subcontractor responsible for the work of this section shall coordinate the work of this section with work of other trades affecting, or affected by, this work to assure the steady progress of all the work of the contract

B. Before proceeding with installation, the general contractor shall require the installer to inspect all project conditions affecting the work of this section to assure that all such conditions and work are suitable to satisfactorily receive the work of this section.

1.09 - Warranty

A. The panel system manufacturer will warrant that the system it supplies will be free from defects in materials and workmanship for a period of one (1) year.

B. The aluminum composite material manufacturer (sheet stock) will provide its standard 20 year finish warranty.

PART 2 - PRODUCTS

2.01 - Acceptable Composite Panel Manufacturers

- A. Alucobond® by Alusuisse Composites, Inc.
- B. Reynobond® by Alco Architectural Products

2.02 - Materials

- A. The drawings and specifications are based on composite metal facing panels with a mechanical/ sealant type attachment method.
- B. Composition: Two sheets of .020 aluminum sandwiching a core of extruded thermoplastic (PE core) formed in a continuous process with no glues or adhesives between dissimilar materials. Preferred total thickness of panel shall be 4mm (approx. 3/16").
- C. Panel finish/color to be as selected by the architect from the composite panel manufacturer's standard paint color chart.
 - 1. Finish: Fluoropolymer Resin Coating (AAMA 605.2)
 - 2. Color: To be selected by Architect.

2.03 - Panel System Performance Requirements

- A. The panel system is to be fabricated by a CNC machine with a rout and return configuration utilizing an aluminum clip system as shown.
- B. Detail and fabricate panels to the sizes, configurations and layouts as shown on the approved shop drawings. Shop drawings shall show the preferred joint details providing a water tight and structurally sound wall panel system of the panel manufacturer that allows no uncontrolled water penetration on the inside face of the system. System must provide a concealed fastener design with use a 1/2" sealant joint.
- C. Fabricate all materials in accordance with the approved CAD shop drawings and FARO Digital Measuring Device field dimensions. All schedules will be based on approval drawings and verified field measurements.
- D. Grain pattern of metallic finished aluminum facing sheets to run in same direction, unless otherwise specified.
- E. Panels shall be marked to coordinate with the approved shop drawings.
- F. Provide protective film on exposed panel faces and leave in place during fabrication.

2.04 Flashing

- A. Formed flashing at the panels & the roof line to be .040" thick aluminum painted to match composite panels with same 20 year finish warranty as the composite panels.

PART 3. - EXECUTION

3.01 - Preparation

- A. Installer shall examine all surfaces and conditions which the work of this section is to be applied and notify the general contractor, in writing, of any defects which would be detrimental to proper installation and alignment of the work. No work shall be erected until all discrepancies have been resolved. Application of materials constitutes acceptance of sub surfaces and conditions.

3.02 - Installation

- A. Typically, all aluminum composite panels will be shipped with all sides completely fabricated and notched ready for installation.
- B. Install composite metal panel system in accordance with the panel system fabricator's approved shop drawings and as illustrated in the fabricator's panel system "Installation Instruction Manual".
- C. Erect and securely anchor all panels plumb, level, square and true to line in accordance with approved shop drawings.

D. Tolerances: Maximum deviation from vertical and horizontal alignment of **substrate and erected panels** shall not exceed 1/8" inch per 12 foot length member, or ¼" in any total run in any line.

E. Use concealed fastening system of non-corrosive type fasteners as recommended by the panel systems manufacturer. These fasteners are to occur under all sealant joints. No exposed, visible fasteners are permitted.

F. Provide for necessary structural movement as indicated on the approved shop drawings.

G. Remove protective film from panel faces immediately upon completion of panel installation.

3.03 - Panel Attachment System

A. Attachment system includes:

1. Fabricated composite metal panels.
2. Attachment System.

B. Attachment system does not include:

1. Stud framing members required for panel systems support.
2. Insulation.
3. Wood blocking, furring.
4. Plywood sheathing and gypsum drywall.
5. Sealant and primers.

6. Vapor Barrier

C. Vapor Barrier

The building envelope shall include a continuous vapor barrier system to prevent conditioned air from reaching the interior panel and forming surface condensation.

D. Panel Protection

1. Panels to be covered with a protective film during fabrication and erection.
2. Film is to be removed immediately after panel installation. Final cleaning and protection then becomes the responsibility of the general contractor.

H. Fasteners

1. Fasteners to be stainless steel.

I. Installation

1. Panel installation to be performed by workers experienced with commercial panel installation with a minimum of 10 years experience. The same company shall fabricate and install the composite metal panel system.
2. Sealant to be installed by the same workmen as above.

3.05 - Clean-Up

A. Upon completion, remove and legally dispose of all trash and debris resulting from operations of this section.

END OF SECTION