

Section 07422 – Composite Wall Panel System

Part 1 General

1.01 Work Included

Furnish all material, labor and equipment to complete the installation of the Litecore 1500 panel system including attachment system and other system components as shown on drawings for secure anchorage to the substructure provided for this purpose.

1.02 Related Work Specified Elsewhere

- A. Section: _____ Cold Formed Metal Framing
- B. Section: _____ Building Insulation
- C. Section: _____ Flashing and Sheet Metal
- D. Section: _____ Sealant
- E. Section: _____ Aluminum Entrance and Storefronts
- F. Section: _____ Glazed Aluminum Curtain Walls
- G. Section: _____ Gypsum Drywall Systems

1.03 System Description

- A. The wall system is designed as a gasketed dry seal system. The system shall meet the specified requirements for local wind loading, air infiltration and water penetration.
- B. The Litecore 1500 system incorporates aluminum composite material (ACM) panel with proprietary perimeter extrusions. Field installed vertical tracks provide for a nominal ½” wide vertical reveal joint; while a wider nominal 1” reveal joint is featured at panel to panel horizontal. The use of caulking at panel joints will not be acceptable. Any exposed sealant at panel terminations or interfaces to be by others.
- C. The anchorage system shall be designed so that panels are secure yet allowing for expansion and contraction. Panel clips shall not be mechanically fastened to perimeter frame extrusions to allow for thermal movement.
- D. All panels shall be pre-finished before fabrication with peel coat to insure integrity of finish applied.
- E. The Litecore 1500 dry joint system is American made.
- F. There are no exposed fasteners.

1.04 Quality Assurance

- A. Manufacturer Qualifications:
Manufacturer shall have a minimum of 5 years experience in the manufacturing of architectural systems, and have completed projects of similar size and complexity.
- B. Installer Qualifications:
Installer shall have a minimum of 5 years experience in installation of architectural wall systems and be approved by the manufacturer.
- C. Sealant Applicator Qualifications:
Applicator shall have a minimum of 5 years experience in the application of sealant and be approved by the manufacturer.
- D. Equal Products:
Products equal to this specification in materials, system design, and finish shall be considered provided they are submitted to the architect for approval 10 days prior to bid date. Failure to comply with this clause will be cause for rejection.

1.05 Reference Standards

- A. AISC Code of Standard Practice, including the standard erection tolerances.
- B. AISI Specification for the Design of Cold Formed Steel Members.

- C. ACI Standard Specification for Tolerances for Concrete Construction and Materials.
- D. AAMA 2605 Coatings and Finishes.

1.06 Performance Requirements

Provide wall panel assembly that is similar to that tested by an independent testing laboratory in accordance with the specified test methods.

- A. ASTM E283 – Air infiltration. Air infiltration rate is not to exceed 0.06 cfm/sf of wall area when tested at 6.24 psf static air pressure differential.
- B. ASTM E331 – Water Penetration. No uncontrolled water penetration when tested at 6.24 psf inward static air pressure differential.
- C. ASTM E330 – Structural Performance. No permanent deformation or failure of structural members when tested at specified loading.
- D. The aluminum composite material (ACM) shall have a Class “A” building material rating when tested in accordance with ASTM E84 (Steiner Tunnel Test) and shall exhibit a flame spread of 15 and a smoke developed of 120.
- E. Bond Integrity. The aluminum composite material shall have been tested in accordance with ASTM D1781 (Climbing Drum Peel) resulting in minimum peel strength of 40 in-lb./in.

1.07 Design Criteria

- A. The aluminum composite panel system, connections, and related components shall be designed for the local positive and negative windload pressure specified. The aluminum composite panel shall have a L/60 limit and the framing system a L/180 limit. There shall be no permanent deformation when subjected to the design criteria specified.
- B. The aluminum composite system shall be designed to accommodate expansion and contraction due to the local temperature variation specified without causing buckling, delamination, excessive stress on fasteners, or any other detrimental effects.

1.08 Submittals

- A. Complete shop drawings shall be submitted by supplier for approval prior to fabrication, including elevations, sections and details of each condition. Such drawings shall also include methods of installation and anchorage.
- B. Tech Data shall be submitted for aluminum composite material and ancillary products provided.
- C. Finish sample shall be submitted for color approval.
- D. A 12” square sample of the panel.

1.09 Delivery, Storage And Handling

- A. Deliver panels packaged and adequately protected from damage during shipment.
- B. Protect panels from adverse job conditions prior to installation.

1.10 Limited Warranties

- A. The panel manufacturer and installer issue a one-year limited warranty on defects in materials and workmanship. This warranty shall begin with the date that the work is substantially complete.
- B. When applicable, a 20-year limited warranty against failure of the Kynar 500 finish shall be supplied. This warranty shall begin with the date of shipment.

Part 2 Products

2.01 Acceptable Manufacturer

- A. LITECORE, INC., Milwaukee, WI

2.02 Materials

- A.** Panels shall be custom fabricated from Reynobond PE, .157" (4mm) aluminum composite material consisting of a thermoplastic compound polyethylene core (PE), sandwiched between two aluminum sheets. The aluminum face sheets shall be .020" thick of aluminum alloy 3105-H25.
- B.** Panels shall have extruded aluminum on four sides as shown on shop drawing. Alloy to be 6063-T5.
- C.** Field installed tracks to be alloy 6063-T5.

2.03 Fabrication

- A.** Maximum allowable panel tolerances shall be as follows:
 - 1. Panel bow shall not exceed 0.8% of panel overall dimension in width or length.
 - 2. Width or length: +/- 1/16" (1.6 mm).
 - 3. Squareness: 1/8" (3.18 mm) difference between diagonal measurements.
- B.** All panels to be formed to specified dimensions with tolerances to accommodate expansion and contraction between panels. Panels will be fabricated per dimensions shown on reviewed shop drawing; unless dimensions are guaranteed by general contractor, or, if contracted and schedule permits, field measurements.

2.04 Finishes

- A.** Coating for aluminum composite material shall be factory applied on a continuous process paint line to ensure the highest color uniformity and quality. Coating shall be Colorweld 300 (or Colorweld 300 XL), a Fluoropolymer coating utilizing 70% Kynar 500 resins.
- B.** Coating shall consist of a 0.2 mil (approx.) prime coat and a 0.8 mil (approx.) finish coat containing 70% Kynar resins. Nominal dry film thickness is 1.0 mil.
- C.** If Colorweld 300 XL, coating shall consist of a 0.2 mil (approx.) barrier prime coat, a 0.8 mil (approx.) color coat, containing 70% Kynar resins, and a 0.5 mil (approx.) clear coat containing 70% Kynar resins. Nominal dry film thickness is 1.5 mil.
- D.** Color: As selected by architect from manufacturer's standard or custom colors.
- E.** Panel perimeter extrusions and field installed tracks to be painted to match color of aluminum composite material, in like finish.

Part 3 Execution

3.01 Inspection

- A.** Inspect delivered materials upon receipt to insure that no damage has occurred during shipment.
- B.** Inspect substrate where panels are to be installed and verify that substrate tolerances, as required in Section 1.05 Reference Standards, have been met.
- C.** Do not start work until unsatisfactory conditions have been corrected.

3.02 Preparation

- A.** Verify that substrate layout complies with shop drawing layout.
- B.** Report any variations and potential problems to the general contractor.
- C.** Do not start work until unsatisfactory conditions have been corrected.

3.03 Installation

- A.** Install panel system, accessories, and trim members in accordance with shop drawings.

- B. Install sealant, infiltration barrier, insulation, and other materials if shown on shop drawings as part of this work, and in accordance with the instructions furnished by the appropriate manufacturer.

3.04 Cleaning

- A. Panel installer shall clean panel surfaces during the course of product installation.
- B. General contractor shall be responsible for final cleaning of panel surfaces at project completion, if required.

3.05 Damaged Materials

- A. Manufacturer shall repair or replace any damaged material if damage is caused by manufacturer. General contractor shall be responsible for protection of completed or installed material from all other trades.