



### 1.3 QUALITY ASSURANCE

- A. Field Measurements: Verify actual dimensions by field measurement before fabrication; show recorded measurements on shop drawings.
- B. Design Engineer's Qualifications: Design structural supports and anchorages under direct supervision of a Structural Engineer experienced in design of this type of Work and licensed in New Jersey.
- C. Wall System Manufacturer Qualifications: Company specializing in manufacturing products specified in this section.
  - 1. With not less than three years of documented experience.
- D. Testing Agency Qualifications: Independent agency experienced in testing assemblies of the type required for this project and having the necessary facilities for full-size mock-up testing of the type specified.
- E. Mock-Up: Provide a mock-up for evaluation of fabrication workmanship.
  - 1. Locate where directed.
  - 2. Provide panels finished as specified.
  - 3. Mock-up may remain as part of the Work.

### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
  - 1. Protect finishes by applying heavy duty removable plastic film during production.
  - 2. Package for protection against transportation damage.
  - 3. Provide markings to identify components consistently with drawings.
  - 4. Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.
- B. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
  - 1. Store in well ventilated space out of direct sunlight.
  - 2. Protect from moisture and condensation with tarpaulins or other suitable weather tight covering installed to provide ventilation.
  - 3. Store at a slope to ensure positive drainage of any accumulated water.
  - 4. Do not store in any enclosed space where ambient temperature can exceed 120 degrees F.
  - 5. Avoid contact with any other materials that might cause staining, denting, or other surface damage.

### 1.5 WARRANTY

- A. Wall System Warranty: Provide joint written warranty by manufacturer and installer, agreeing to correct defects in manufacturing or installation within a two year period after Date of Substantial Completion.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Metal Composite Material Sheet Manufacturers:
  1. 3A Composites USA; Alucobond: [www.alucobondusa.com](http://www.alucobondusa.com)
  2. Alcoa, Inc; Reynobond ACM: [www.alcoa.com](http://www.alcoa.com)
  3. Alpolic Materials; Mitsubishi Plastics Composites: [www.alpolic-northamerica.com](http://www.alpolic-northamerica.com)
  4. ACPEXPRESS™: [www.acpexpress.com](http://www.acpexpress.com)
- B. Wall Panel System Manufacturer: **ESTOLGA**      **1-844-227-3977**

### 2.2 WALL PANEL SYSTEM

- A. Wall Panel System: Metal panels, fasteners, and anchors designed to be supported by framing or other substrate provided by others; provide installed panel system capable of maintaining specified performance without defects, damage or failure.
  1. Provide panel jointing and gaskets indicated as a Rout and Return Dry System
  2. Anchor panels to supporting framing without exposed fasteners.
- B. Performance Requirements:
  1. Thermal Movement: Provide for free and noiseless vertical and horizontal thermal movement due to expansion and contraction under material temperature range of minus 20 degrees F to 180 degrees F without buckling, opening of joints, undue stress on fasteners, or other detrimental effects; allow for ambient temperature at time of fabrication, assembly, and erection procedures.
  2. Wind Performance: Provide system tested in accordance with ASTM E330 without permanent deformation or failures of structural members.
    - a. The unit achieved Design Pressure of [-26.6 psf] and Overload Pressure of [-40.0 psf].
    - b. Maximum deflection of perimeter framing member of L/175 normal to plane of the wall; maximum deflection of individual panels of L/60.
    - c. Maximum anchor deflection in any direction of 1/16 inch at connection points of framing members to anchors.
  3. Air Infiltration: [n/a Interior Application] of wall area, maximum, when tested at [n/a Interior Application] in accordance with ASTM E283.
  4. Water Penetration: No water penetration under static pressure when tested in accordance with ASTM E331 at a differential of 10 percent of inward acting design load, [n/a Interior Application] minimum, after 15 minutes.
    - a. Water penetration is defined as the appearance of uncontrolled water on the interior face of the wall.
    - b. Design to drain leakage and condensation to the exterior face of the wall.

### 2.3 MATERIALS

- A. Metal Composite Material (MCM) Sheet: Two sheets of aluminum sandwiching a solid core of extruded thermoplastic material formed in a continuous process with no glues or adhesives between dissimilar materials; core material free of voids and spaces; no foamed insulation material content.
  1. Overall Sheet Thickness: 4 mm.
  2. Face Sheet Thickness: 0.019 inches, minimum.
  3. Alloy: Manufacturer's standard, selected for best appearance and finish durability.
  4. Bond and Peel Strength: No adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below 22.4 inch-pound/inch with no degradation in bond performance, when tested in accordance with ASTM D1781, simulating resistance to panel delamination, after 8 hours of submersion in boiling water and after 21 days of



- C. Install wall system securely allowing for necessary thermal and structural movement; comply with wall system manufacturer's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- E. Do not form panels in field unless required by wall system manufacturer and approved by the Architect; comply with MCM sheet manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.
- G. Install flashings as indicated on shop drawings at flashing butt joints, provide a lap strap under flashing and seal lapped surfaces with a full bed of non-hardening sealant.
- H. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
  - 1. Variation From Plane or Location: 1/2 inch in 30 feet of length and up to 3/4 inch in 300 feet, maximum.
  - 2. Deviation of Vertical Member From True Line: 0.1 inch in 25 feet run, maximum.
  - 3. Deviation of Horizontal Member From True Line: 0.1 inch in 25 feet run, maximum.
  - 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 0.03 inch, maximum.
- I. Replace damaged products.
  - 1. Exception: Field repairs of minor damage to finishes are permitted only when approved in writing by Owner, panel manufacturer, and fabricator.
  - 2. Field Repairs to Finishes: Using materials and methods sufficient that repairs are not discernible when viewed at distance of 10 feet under all typical light conditions experienced at the project.

### **3.4 FIELD QUALITY CONTROL**

- A. Wall System Manufacturer's Field Services: Provide field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with instructions.

### **3.5 CLEANING**

- A. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.
- B. Remove protective film after installation of joint sealers, after cleaning of adjacent materials, and immediately prior to completion of work.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Clean installed products in accordance with manufacturer's instructions.

### **3.6 PROTECTION**

- A. Protect installed panel system from damage during construction.

**END OF SECTION**