

**MANUFACTURER:**

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<b>AMERICLAD® AC-1200 Panel System</b>
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## **SECTION 07 42 13 ALUMINUM COMPOSITE PANEL SYSTEM (BACK VENTILATED DRY JOINT)**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. The drawings and provisions of the General Conditions, and the sections included under Division 1 specification sections, apply to this section

#### **1.2 SUMMARY**

- A. This section includes aluminum composite panels that are used as the exterior and interior cladding

#### **1.3 PERFORMANCE REQUIREMENTS**

- A. Structural Performance: provide aluminum composite wall panels capable of withstanding the effects of normal stress from thermal movements and load affects from: wind loads, dead loads, and snow loads; without evidence of permanent defects of the assembly. System designed for a mechanically fastened assembly to substructure:
1. Dead Load as required by applicable building code
  2. Live Load as required by applicable building code
  3. Wind Load: uniform pressure (define velocity pressure) of (insert design criteria) pound/square foot, acting inward and outward.
  4. Thermal Movements: provide panel assemblies that allow for thermal movements to prevent buckling, opening of joints and other thermal effects
- B. Back ventilated Rain Screen tested in accordance with AAMA 509

- C. Structural Performance cyclic static air pressure differential tested in accordance with ASTM E 1233-06. Test was conducted for 100 three-second cycles from 240 Pa (5.0 psf) to 1200 V (25.0 psf) to 240 Pa (5.0 psf)
- D. Water penetration using Dynamic Pressure tested in accordance with AAMA 501.1-05. Test was conducted with dynamic pressure equivalent to 300 Pa (6.24 psf) for a 15-minute duration. Water was applied to mock-up at a minimum rate of 5 gal/hr/ft<sup>2</sup>
- E. Structural Performance / Uniform Load Deflection Test: Provide panel system that has been tested in accordance with ASTM E330.
- F. Air Infiltration: Panel system shall not have air infiltration rate more than 0.06 cfm per square foot of fixed wall area when tested in accordance with ASTM E283 at a static air pressure differential of 1.57 psf.
- G. Static Water Penetration: Panel system shall have no water penetrations defined by in test method when tested in accordance with ASTM E331 at inward static pressure differential of 15% of the positive design pressure but not less than 6.24 psf.
- H. Design the panel for a mechanically fastened assembly to substructure
- I. Design panel tolerances to manufacturer's standard tolerances
- J. Metal panels to have a maximum allowable deflection of L/60
- K. **NFPA 285**: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

#### **1.4 SUBMITTALS**

- A. Product Data: Manufacturer's product literature
- B. Finish Samples: submit color samples for final approval
- C. Shop Drawings: submit shop drawings showing plans, sections, and details

#### **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Minimum of five years experience in manufacturing of metal wall panel products
- B. Installer Qualifications: Acceptable to manufacturer
- C. Engineering Qualifications: Provide engineering calculations for the metal panel assembly to be prepared by an engineer registered in the state the project is located

#### **1.6 DELIVERY, STORAGE AND HANDLING**

- A. Delivery: deliver metal panels in manufacturer's crates packed for long haul transit
- B. Storage: store materials in a dry and safe area

- C. Handling: handle materials to avoid any damage to materials and finishes

## 1.7 WARRANTY

- A. The contractor must warrant the materials to be free of defects in accordance with the general conditions. Finish warranty shall be extended by paint manufacturer's standard warranty

## PART 2 – PRODUCTS

### 2.1 MANUFACTURER

- A. Americlad, LLC, 21925 Industrial Boulevard, Rogers, Minnesota 55374, Telephone: (866) 260-4047, [www.americlad.com](http://www.americlad.com)
  - 1. AC-1200 Dry Set Aluminum Composite Panel System (Back Ventilated Dry Joint)
- B. Approved equal submitted for approval 10 days prior to bid

### 2.2 MATERIALS

- A. Panels shall be 4 mm FR core, Aluminum Composite material unless alternate core is required by the Architect
- B. Aluminum composite will be composed of a thermoplastic core laminated between two aluminum sheets (.020") formed in a continuous process with no applied adhesives
- C. Composite panels shall have a Class "A" building material rating when tested in accordance with ASTM E84 and performed to a flame spread of 15 and a smoke developed rating of 120
- D. Aluminum Extrusions: ASTM B221, alloy 6000 series aluminum
- E. Thickness: 4 mm PE core Aluminum Composite material unless otherwise specified

### 2.3 FABRICATION

- A. Tolerances
  - 1. Brake form edges at right angles to the plane of the wall
  - 2. Reinforce panels with proper stiffening as required and applicable based on design loads
  - 3. Panel surfaces shall be free of blemishes, scratches or marks caused during fabrication process
- B. Assembly
  - 1. Extrusions installed in a mitered continuous perimeter application to ensure proper pressure equalization. System must have

non-exposed fasteners but be mechanically fastened using a flat pan self-drilling screws.

## **2.4 ACCESSORIES**

A. Sill starter, Edge clips and mid clips are required for final installation to exterior wall assembly.

## **2.5 FINISHES**

A. Paint:

1. Coating shall be a coil Applied Fluorocarbon Resin Utilizing a 70% Kynar 500/Hylar 5000 resin
2. Color as selected by owner from paint manufacturer's standard colors or custom colors as specified
3. Material to be painted in accordance with either AAMA specification 2605 or 2604

B. Anodized:

1. Class I, Clear Anodic Finish: AA-M12C22A41, mechanical finish, non-specular as fabricated. Coating to have an anodic coating of 0.7 mil (0.018 mm) thickness
2. Class I, Color Anodic Finish: AA-M12C22A42/A44, mechanical finish, non-specular as fabricated. Color to be determined by Owner. Coating to have an anodic coating of 0.7 mil (0.018) thickness
- 3.

## **PART 3 – EXECUTION**

### **3.1 PREPARATION**

- A. Coordinate drawings, diagrams, and instructions for installation
- B. Verify that underlayment has been installed over sheathing to prevent air and infiltration or water penetration

### **3.2 INSTALLATION**

- A. Install panels plumb and level per shop drawing detailing
- B. Isolation tape or shim shall be installed where dissimilar materials come in contact

### **3.3 CLEANING AND PROTECTION**



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- A. Clean exposed surfaces after installation per manufacturer's recommendation
- B. Touch up minor abrasions in finish with touch up paint supplied by finish applicator

**END OF SECTION**