

**MANUFACTURER:**

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**AMERICLAD  
AC-1200BV  
Panel System**

**SECTION 07 42 13  
ALUMINUM COMPOSITE PANEL SYSTEM  
(BACK VENTILATED RAINSCREEN 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 panel assemblies capable of withstanding the effects of load and stresses from wind loads, dead loads, snow loads and normal and expected thermal movement without evidence of permanent defects of the assemblies. 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. Design the panel for a mechanically fastened assembly to substructure  
C. Design panel tolerances to manufacturer's standard tolerances  
D. Metal panels to have a maximum allowable deflection of L/60

- E. AAMA 509-09, Voluntary test and classification method for drained and back ventilated rain screen wall cladding systems
- F. ASTM E 283-04, Standard test method for determining rate of air leakage through exterior windows, curtain walls and door under specified pressure differences across the specimen. Testing was conducted at 1.57 psf positive static air pressure difference.
- G. Air Flow Analysis: Testing was conducted at 1.57 psf positive static air pressure difference to verify “defective” air-water barrier. Testing was conducted at 0.55 psf positive static air pressure difference to establish the air flow capabilities of the exterior cladding system. Each condition: head, jamb, sill intermediate vertical and intermediate horizontal were tested by taking the air flow readings of each element to better understand the system’s ability to allow for ventilation and the potential for drying.
- H. ASTM E 331-00, Standard test method for water penetration of exterior windows, skylights, doors, and curtain walls by uniform static air pressure difference. Testing was conducted at both 6.24 psf and 12 psf positive static air pressure difference for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/hr./ft<sup>2</sup>.
- I. AAMA 501.1-05, standard test method for water penetration of windows, curtain wall and doors using dynamic pressure. Testing was conducted with a dynamic pressure equivalent of both 6.24 psf and 12.0 psf for a 15-minute duration. Water was applied to the mock-up at a minimum rate of 5 gal/hr./ft<sup>2</sup>.
- J. Structural Performance / Uniform Load Deflection Test: Provide panel system that has been tested in accordance with ASTM E330.

#### **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-1200BV Aluminum Composite Panel System (Back ventilated rain screen Dry Joint)
- K. 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 PE (Polyethylene) core is required by the Architect or job requirements
- 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

### **2.4 ACCESSORIES**

- A. All fasteners shall be stainless steel
- B. Extrusions supplied by fabricator. System is a dry joint with exposed stainless steel or aluminum rivets located in the return flanges

**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

**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**

- 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**