

AAP-950 Aluminum Plate Rain Screen

SECTION 07400

WALL PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal Wall Panels.

1.2 RELATED SECTIONS

- A. Section 05080 - Factory Applied Metal Coatings.
- B. Section 05100 - Structural Metal Framing.
- C. Section 05400 - Cold Formed Metal Framing.
- D. Section 05500 - Metal Fabrications.
- E. Section 07100 - Dampproofing and Waterproofing.
- F. Section 07240 - Exterior Insulation and Finish Systems.
- G. Section 07620 - Sheet Metal Flashing and Trim.
- H. Section 08410 - Metal Framed Storefronts.
- I. Section 08910 - Metal Framed Curtain Wall.

1.3 REFERENCES

- A. AA ASD-1-82 - Aluminum Standards and Data.
- B. ANSI A58.1-82 - Minimum Design Loads for Buildings and Other Structures.
- C. ANSI H35.1-82 - Alloy and Temper Designation for Aluminum.
- D. ASTM B 209 - Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
- E. ASTM B 221 - Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- F. IBC - 2004 International Building Code: Section 1609 - Wind Loads.
- G. NAAMM - Metal Finishes Manual.
- H. AAMA 2605 High performance organic coatings
- I. UBC - 1997 - Uniform Building Code: Division III - Wind Design.

1.4 PERFORMANCE REQUIREMENTS

- A. Design panels and support system to allow and accommodate expansion and contraction of the various components for temperature differentials of 80 C (175 F). Thermal movement shall not affect, distort, stress or transfer between the panels, support components, or other building elements.
- B. Panel and support system design shall meet the following Wind Load Criteria without yield or measurable permanent distortion. Wind loads to be determined per UBC Division III, or IBC Section 1609 Wind Loads.
 - 1. Basic Wind Speed = ___ MPH (___ Kmh).
 - 2. Exposure: ___.
 - 3. Maximum panel deflection measured perpendicular to panel face on the longest diagonal length shall not exceed $L/60$ @ 150 percent maximum wind load.
 - 4. Maximum deflection of supporting channels or components shall not exceed $L/175$ of span @ 150 percent maximum wind load. Span is measured between the centerline of anchor points. Cantilever span is defined as two times the distance from anchor centerline to cantilever end.
- C. Base design on the Rainscreen Principle. Proper joinery and spacing to allow effective back ventilation and pressure equalization. No exposed sealants, gaskets, tapes or battens unless specifically detailed in Architectural drawings.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Sample Warranty
- C. Shop Drawings:
 - 1. Provide complete shop drawings showing plan views, elevations, and section views that indicate joint locations, terminations, and inter-trade coordination references.
 - 2. Include large scale details of all typical and all special details that represent intended methods of joinery, bending, and welds, fastening, and interfacing to other finishes.
 - 3. Provide adequate information to coordinate proper location of the structure's substrate and frame components to which the panel system is attached.
 - 4. Reference project datum as provided in the Architectural drawings to provide coordinated dimensions and data in order to minimize or eliminate need for field verification.
- D. Selection Samples: Finish samples 3 inch by 5 inch (75mm x 125mm) for each different color and product.
- E. Verification Samples: For each finish product specified, two samples 8 1/2 inches by 11 inches (225mm x 275mm) on specified project substrate.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of

the same type and scope as specified.

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Packaging and Delivery: Panels and components shall be packaged to adequately protect them from damage in transit and handling.
- B. Storing Delivered Product: Store packaged and delivered product under cover. Protect from exposure to weather. Stage crated material on flat surface.
- C. Protect all metals from galvanic corrosion and electromotive corrosion through adequate separation or the use of inert insulating materials.
- D. Stack materials in assemblies such that oxides and/or electrolytes cannot affect other metals and galvanic action cannot occur.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Materials Manufacturers: Repair or replace defective materials for a period of two (2) years.
- B. Panel System Manufacturer: Repair or replace fabricated products which fail due to faulty workmanship for a period of one (1) year.
- C. Painted Coatings: Coatings Manufacturer and applicator to warrant paint for a period of ten (10) years. Gloss retention greater than 50 percent. Color retention no greater than 5ÅE Hunter units color loss. Chalk rating of greater than or equal to 8.
- D. Panel System Installer: Repair or replace products or components which fail due to faulty workmanship for a period of one (1) year.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Abrams Architectural Products, which is located at: 7260 Delta Circle, Austell, GA 30168; Tel: 770-745-8728 Fax: 770-745-8839; Email: sales@abramssales.com; Web: www.abramssales.com
- B. Fabrication and Installation of panels to be performed by the same fabricator of the panel system. No exceptions allowed.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600. Requests must be made ten (10) days prior to bid date with approval by addendum only.

2.2 MATERIALS

- A. Panels: Aluminum Alloy 3003-H14 (paint quality), minimum 3mm (1/8 inch) thickness in accordance with ASTM B 209.
- B. Fasteners: All mechanical fasteners to be of Austenitic Stainless Steel. Aluminum rivets may be used only at aluminum to aluminum connections as Engineer's analysis permits.

2.3 FABRICATION

- A. Abrams Architectural Products Series AAP – 950 . Exterior metal panels and supporting assemblies, trim and accessories required for complete system installation.
 - 1. Exterior Panels: Preformed, pre-finished exterior panels. Material as specified in Article 2.2 "Materials".
 - 2. Vertical Drainage Channels: Matching material and finish providing method for semi concealed panel fastening devices.
 - 3. Fastening: Semi concealed fastening devices matching color of panels when used in a rainscreen application.
 - 4. Hardware: Bracketing, anchors and fasteners for attachment of vertical supporting channels to building structure.
- B. Manufacturing Tolerances:
 - 1. Fabricate panels and components to a tolerance not to exceed 1/8 inch (3mm) deviation in any dimension from designed dimension.
- C. Defects:
 - 1. No visible defects to the metal or finish from a distance greater than three (3) Meters (10 feet) when viewed at a 90 degree angle from the surface.
 - 2. Any blemish that exposes raw metals will be considered defective.
 - 3. Final acceptance will be determined by the Architect.

2.4 FINISHES

- A. Architect to select finish from manufacturers list of available finishes.
- B. General: Coatings to be applied in dedicated facility specialized in the application of specified finishes and authorized by the coatings manufacturer. All coatings must meet or exceed the requirements of AAMA 2605.
- C. Aluminum Panel Finish: Two (2) coat, 70 percent Kynar fluorocarbon, baked finish.
 - 1. Color: As selected by Architect from Manufacturers available color choices.
- D. Brackets: Mill finish.

PART 3 EXECUTION

3.1 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions

3.2 EXAMINATION

- A. Installing Contractor shall examine the structure and components to support or receive the panel system. Verify that the structure is erected as set forth by the contract documents, and Industry Standards and tolerances. Report deficiencies or discrepancies immediately and do not proceed with erection of panel system until such deficiencies can be corrected or addressed.
- B. Verify that structural components are properly placed to receive and support the panel system, and that the panel system accommodates the building tolerances. Report deficiencies immediately.
- C. Inspect the integrity of building water proofing envelop. Report inadequacies prior to proceeding.
- D. Do not begin installation until substrates have been properly prepared.
- E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.3 INSTALLATION

- A. Erect panel system Plumb, Level, and Square, per the contract documents, within tolerances and Industry Standards. Installation tolerances must remain within panel manufacturing tolerances and thermal movement tolerances and requirements.
- B. Install in accordance with manufacturer's instructions.

3.4 ADJUSTING AND CLEANING

- A. Adjust and secure the panel system to achieve and maintain designed locations and tolerances.
- B. Thoroughly clean installed panels for presentation to the General Contractor upon completion of installation. Subsequent cleaning is the responsibility of the General Contractor.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. Present completed and cleaned panel system to the General Contractor as determined in advance. Protection from construction or consequential damage is the responsibility of the General Contractor.

END OF SECTION