Guideline Specifications

Exterior Aluminum/Composite Wall Panels

Wyrite Panel System DBV - 509

Drained and Back Ventilated Rainscreen

SECTION 07410

PART 1 GENERAL

1.01 SUMMARY

A. Work of this section included but not limited to the design, fabrication, finishing and erecting of the aluminum/composite metal panel system.

B. Related Sections: Sections related to this section include:
   1) Cold-Formed Metal Framing: Division 5 Cold- Formed Metal Framing Sections.
   2) Sheet Metal Flashing & Trim: Division 7 Flashing & Sheet Metal Sections
   3) Joint Sealers: Division 7 Joint Sealer Sections
   4) Aluminum Windows: Division 8 Window Sections
   5) Glazing: Division 8 Glass & Glazing Sections
   6) Metal Framed Curtain Wall: Division 8 Glazed Curtain Wall Sections

1.02 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide aluminum/composite panels, which have been **manufactured, fabricated and installed to withstand loads from deflection & thermal** movement and to maintain performance criteria stated by manufacturer without defects, damage, or failure.

B. Deflection & Thermal Movements:
   1) Normal Deflection: Provide exterior/interior wall cladding assemblies capable of withstanding the effects of load stresses from dead loads, wind loads, snow loads and normal thermal movement without evidence of permanent defects of assemblies or components.
      a. Dead Load: As required by applicable building code
      b. Wind Load: Uniform pressure (velocity pressure) of (insert design criteria) lb/sqft (insert design criteria), acting inward and outward.

2) Anchor Deflection at connection points of framing members to anchors. Anchor deflection in any direction not to exceed 1/16" (1.6mm).
3) Thermal Movements: Allow for free horizontal and vertical movement, due to expansion & contraction of components.
    a. Buckling, opening of joints, undue stress on fasteners, failures of sealant, or any other detrimental effects of thermal movement will not be permitted.
    b. Fabrication, assembly, and erection procedures shall take into account the ambient temperature at the time of the respective operation.

1.04 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal wall panel and accessory.
B. Shop Drawings: Submit shop drawings showing layout; details of edge conditions; joints; panel profiles; corners; and product components, including finish, color &texture, anchorage and attachment system. Distinguish between factory and field assembled work.
    1) Include details showing thickness and dimensions of the various systems parts, fastening and anchoring methods; locations of joints and the location and configuration of joints necessary to accommodate thermal movement.
    2) For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified Professional Engineer responsible for the preparation.
C. Sample showing finish, color and texture.
    1) Selected Samples: Manufacturer's color chart or chips illustrating full range of colors, finishes and patterns available for aluminum/composite panels with factory-applied finishes.
    2) Include separate sets of finish samples of aluminum substrate, not less than 3" x 3" (76mm x 76mm), of each color and finish selected, to obtain color approval.
D. Quality Assurance Submittals:
    1) Include test reports for air infiltration, water penetration and structural performance.
    2) Designed Systems installation instructions.
    3) Closeout Submittals: Submit warranties specified elsewhere in this section.

1.05 QUALITY ASSURANCE

A. Qualifications:
    1) Installers experienced in performing work of this section have specialized in the work similar to that required for this project.
    2) Manufacturer/Fabricator capable of providing field service representation during construction.
        a. Company with a minimum of five years of continuous experience manufacturing/fabricating panel system or the type specified.

b. List of five other projects of similar size, including approximate date of installation and name of Architect of each.

B. Conduct pre-installation meeting to verify project requirements, substrate conditions, weather proofing, flashing, installation instructions and warranty requirements. Field Quality Control: Comply with systems manufacturer's recommendations and guidelines.

1.06 DELIVERY, STORAGE & HANDLING

A. Comply with Division 1 Product Requirements Sections.
B. Comply with manufacturer's/fabricator's ordering instructions and lead times. Requirements to avoid construction delays.
C. All materials under this section shall be delivered with the identification label intact, and be packaged, boxed wrapped in manufacturer's/fabricator's original, unopened, undamaged containers or be otherwise protected to assure complete protection from reasonable damage during shipment, storage, and handling.
    1) Protect finish of panels by applying PVC removable plastic film. This film must be removed immediately after installation to avoid prolonged exposure to direct sun light.
    2) Protect Aluminum/Composite wall panels against transportation damage. Provide marking/labeling to identify components consistently with drawings.
    3) Exercise care in unloading, storing, and installing panels to prevent bending, warping, twisting and surface damage.
D. Materials shall be stored in enclosed spaces, above ground, under protective covers. Extreme care shall be taken to avoid contact with moisture, condensation, or materials which might cause staining, such as lime, cement, fresh concrete, or chemicals.
E. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature condition recommended by the manufacturer/fabricator.
    1) Store panels in well ventilated space out of direct sunlight.
        a. Protect panels from moisture & condensation with tarpaulins or other suitably ventilated weather tight covering.
        b. Slope panels to ensure positive drainage and prevent water accumulation.
        c. Do not store panels in any space where ambient temperatures can exceed 120°F (49°C).
    2) Avoid Contact with any other material that might cause staining, denting, scratching or other surface damage.
    3) To prevent adhesive transfer to finish, Exterior Aluminum/Composite Wall Panels must not be stored for prolonged periods of time, be stored in direct sunlight, or be subjected to high heat prior to installation.

1.07 PROJECT CONDITIONS

A. Field measurements: Verify actual measurements and openings by field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedules with construction team to avoid delays.

1) System must have base extrusions that can be planed on the wall directly over the weatherproofing and be flashed during or prior to field measurements. This allows protection of the weatherproofing during the panel fabrication process. Measurements can be taken from these installed base extrusions to provide accurate panel dimensions. This also allows the precise placement of centerline joints to adjacent material such as; curtainwall mullions, concrete panel joints and other design features.

1.08 WARRANTY

A. Project Warranty: Refer to Contract Documents for project warranty provisions.
B. Manufacturer's Warranty (MCM): Submit, for Owner's acceptance, MCM manufacturer's standard warranty document executed by authorized company official.
   1) Warranty shall be for finish and product performance.
C. Panel System Fabricator's Warranty: Submit, for Owner's acceptance, Fabricator's workmanship warranty document executed by authorized company official.

PART 2 PRODUCTS

2.01 ALUMINUM/COMPOSITE PANEL SYSTEM

A. True Blue Products -Wyrite DBV-509 Rainscreen Panel System
   1) Contact: 3530 E Atlanta Ave, Phoenix AZ ,85040
      Phone (602) 581-5299 Website: www. www.trueblueproducts.net
      Email: info@trueblueproducts.net
B. System must not include aluminum extrusions in outer frame.
   1) System must allow for any damaged or defective panel to be removed and replaced without removing adjacent panels.
C. System must utilize Stainless steel panel clips to attach to the wall substrate,
D. System must allow for future replacement of panels without removing base panels.
E. System must have stiffeners mechanically fastened to the stainless steel wire clips for panel integrity.
F. System must be able to accommodate using .090" Aluminum Plate, .125" Aluminum Plate, 3mm MCM, 4mm MCM and or 6mm MCM.
G. Attachment Extrusions:
   1) All system extrusions to be alloy 6063-T-6
   2) Base and starter extrusions as required planed plumb level and true per system requirements.
   3) Frame extrusions mechanically attached to panel.
H. Stiffeners:
   1) Alloy 6063-T-5
   2) Stiffener to be 1" x 1" x 1/8" Aluminum tube or equal structural qualities.
   3) Spaced as required for flatness and or per PE calculations if required. Minimum 24" OC.

4) Attached with mechanical fasteners to stainless steel wire clips and fastened to back of panel with 3MVHB G16 double sided tape

2.02 COMPOSITE METAL PANEL MATERIALS

A. Composite Metal Panels: Refer to all manufacturer's product specifications.
   1) Core: Thermoplastic material that meets performance characteristics specified when fabricated into composite assembly.
   2) Face Sheets: Aluminum alloy or another specified metal, minimum .020" (.51mm) thick as follows:
      a. Coil coated with specified high-performance finish.
      b. Thermally bonded in continuous process without glues or adhesives to core material.
   3) Bond Integrity: Tested for resistance to delamination as follows:
      a. Bond Strength: 1,500 psi (10.3 mpa) minimum, per ASTM C 297.
      b. Peel Strength: 33.6 inch-lb/inch (150 N-m/m) minimum, per ASTM D 1781.
      c. No Change in bond performance after eight hours of submission in boiling water and after 21 days of immersion in water at 70°F.
   4) Fire Performance for both 4mm and 6mm
      a. Flame Spread: 0, when tested per ASTM E84
      b. Smoke Developed: 10 maximum, when tested per ASTM E84
      c. Surface Flammability: Pass when tested per modified ASTM E108
   5) Production Tolerances:
      a. Width: +/- 0.08"/3ft (+/- 1mm/m)
      b. Length: +/- 0.08"/3ft (+/- 1mm/m)
      c. Thickness: +/- 0.08" (+/-0.2mm for 4mm Panels, +/- 0.012" (+/- 0.3mm) for 6mm panels
      d. Bow: Maximum 0.8% length or width
      e. Squareness: Maximum 0.2" (5.1mm)
      f. Edges of sheet shall be square and trimmed with no displacement of aluminum sheet or protrusion of core material
   6) Panel Thickness: Material thickness 3mm,4mm or 6mm for standard PE core and or 4mm Fire-Rated (FR) core as specified based on application, core composition and local building codes.

2.03 ACCESSORIES

A. General: Installer is to supply standard accessories including fasteners, clips, anchorage devices, shims, backer rods and sealants.

2.04 RELATED MATERIALS

A. General: Refer to other related section(s) regarding related materials, including cold-formed metal framing, flashing and trim, joint sealer, aluminum windows, glass & glazing and curtain walls.

2.05 FABRICATION

A. General: Shop fabricate to size and joint configurations indicated on the shop drawings and or placement of base extrusions if wall and surrounding conditions differ from approved shop drawings
B. Form panel lines, breaks and angles to be sharp and true, with a surface that is free from warp or buckle.
    1) Fabricate with sharply formed edges, with no displacement of aluminum sheet or protrusion of core
C. All panels to be shop fabricated per the system fabrication manual.

2.06 FINISHES

A. Factory Finish: Per AAMA 2605 if coil coated with Fluoropolymer resin-based coatings.

PART 3 EXECUTION

3.01 PANEL SYSTEM'S/MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with panel system's/manufacturer's product data, including technical bulletins, fabrication manuals, installation instructions and product(s) carton instructions.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable product installation.

3.03 PREPARTION

A. Adjacent Surfaces Protection: Protect adjacent work areas and finish surfaces from damage during product installation.

3.04 INSTALLATION

A. General:
    1) Install panels plumb, level and true, in compliance with Panel System's/Manufacturer's recommendations.
    2) Anchor panels and base extrusions securely in place in accordance with approved shop drawings and or stamped PE calculations.
    3) Comply with Section 07900 for installation of joint sealers.

3.05 ADJUSTING

A. Repair panels with minor damage so those repairs are not discernable at a distance of 120" (10'-0" or 3.1m)
B. Remove and replace panels damaged beyond repair per Panel System's replacement instructions.
C. Remove protective film immediately after installation of panels to avoid prolonged exposure to sunlight.

D. Remove from project site damaged panels, protective film and other debris attributable to work of this section.

3.06 CLEANING

A. Cleaning: Remove temporary covering and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

3.07 PROTECTION

A. Protection: Protect the installed product's finished surface from damage during construction.
   1) Institute reasonable protective measures as required assuring that installed panels will not be damaged by work by other trades.

-- END OF SECTION –

(Refer to the Following System Drawings)