

SECTION 07420
METAL PANELS

PART 1 GENERAL

1.01 SUMMARY

- A. Provide High performance Aluminum Honeycomb Core Wall Cladding System at Walls, soffits, and window surrounds as detailed, including sealants, fasteners, and related flashings.
- B. Related Sections: Section(s) related to this section include:
 - 1. Cold-Formed Metal Framing: Division 5 Metal Framing Sections.
 - 2. Sheet Metal Flashing and Trim: Division 7 Flashing and Trim Section.
 - 3. Joint Sealers: Division 7 Joint Treatment Section.
 - 4. Aluminum Windows: Division 8 Aluminum Windows Section.

1.02 SYSTEM DESCRIPTION

- A. Aluminum Panel System: Aluminum Honeycomb Core Composite Wet Joint Panel system.
 - 1. Basis of Design System: Skyline Sheet Metal. "SKYCORE"
 - 2. Substitutions: Section 01600- Products Requirements
- B. System Tests Required:
 - 1. ASTM E 283-04, *Test Method for Determining Rate of Airflow Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.*
 - 2. ASTM E 330-02, *Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.*
 - 3. ASTM E 331-00. *Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.*
 - 4. AAMA 501.1-05, *Standard Test Method for Metal Curtain Walls for Water Penetration Using Dynamic Pressure.*
- C. System Testing Required Results:
 - 1. ASTM E283-04 Air Infiltration 25 PSF <0.01 cfm/ft²
 - 2. ASTM E 330-02 Uniform Load Deflection L/60 @ () PSF at center of panel span without permanent deflection.
 - 3. ASTM E 330-02 Uniform Load Deflection (Ultimate load held for 1 minute with no damage) 1 ½ times design load
 - 4. ASTM E 331-00 Water Resistance, Static 25 PSF No Leakage
 - 5. AAMA 501.1-05 Water Resistance, Dynamic 25 PSF No Leakage
- D. Performance Requirements: Provide metal panels, which have been manufactured, fabricated and installed to withstand loads from deflection and thermal movement and to maintain performance criteria stated by manufacturer without defects, damage or failure. Performance Test reports for required tests and results must be from an ASTM and AAMA Certified Independent Lab.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures.
 - 1. Include details showing thickness and dimensions of the various system parts, fastening and anchoring methods, locations of joints and sealant, and location and configuration of joints necessary to accommodate thermal movement.
- D. Samples: Submit selection and verification samples for finishes, colors and textures.
 - 1. Selected Samples: Manufacturer's color charts or chips illustrating full range of colors, finishes and patterns available for composite metal panels with factory-applied finishes.
 - 2. Verification Samples:

- a. Structural: 12 inch × 12 inch sample composite panels in thickness specified, from an available stock color, including clips, anchors, supports, fasteners, closures and other panel accessories, for assembly approval.
- b. Include separate sets of draw down samples on aluminum substrate, not less than 3 inches × 5 inches of each color and finish selected, for color approval. Larger samples of standard colors are available with production-applied coatings.

E. Quality Assurance Submittals: Submit the following:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements.
3. Manufacturer's Instructions: Manufacturer's installation instructions.

F. Closeout Submittals: Submit the following:

1. Warranty: Warranty documents specified herein.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in the installation of work similar to that required for this project with a minimum of 5 years of continuous experience.
2. Manufacturer Qualifications: Company with a minimum of 5 years of continuous experience manufacturing panel material of the type specified:
 - a. Able to provide specified warranty on finish.
 - b. Able to provide a list of 5 other projects of similar size, including approximate date of installation and name of Architect for each.
3. Fabricator Qualifications: Company with at least 5 years of experience on similar sized metal panel projects. Capable of providing field service representation during construction.

B. Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color (draw down samples to be used for color approval of nonstandard coil coated colors), texture and pattern, and workmanship standard. Comply with Division 1 Quality Control (Mock-Up Requirements) Section.

1. Mock-Up Size: [Specify mock-up size.].
2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.

C. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

1.05 PROJECT CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements, fabrication schedule with construction progress to avoid construction delays.

1.06 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.

1. Warranty Period: 2 years
 - a. Finish: 20 years. Commencing on Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aluminum Face Sheet: ASTM B209, Aluminum Association Specification Sheet 3003-H14/3105-H14
 - 1. Aluminum Sheet Thickness: (.040)
 - 2. Fluoropolymer coating utilizing 70% Kynar 500 resins to match Architects sample
- B. Honeycomb Core: 3000 Series Aluminum commercial Grade
- C. Aluminum Backer Sheet: ASTM B209, Aluminum Association Specification Sheet 3003-H14/3105-H14
 - 1. Aluminum Sheet Thickness: Match Front Face

2.02 ACCESSORIES

- A. General: Provide Skyline Sheet Metal standard accessories, including fasteners, clips, anchorage devices and attachments specific to SKYCORE Wall Cladding System

2.03 RELATED MATERIALS

- A. General: Refer to other related sections in Related Sections paragraph specified herein for related materials, including cold-form metal framing, flashing and trim, joint sealers, aluminum windows, glass and glazing, and curtain walls.

2.04 FABRICATION

- A. General: Shop fabricate to sizes and joint configurations indicated on the drawings.
 - 1. Where final dimensions cannot be established by field measurements, provide allowance for field adjustment as recommended by the fabricator.
 - 2. Form panel lines, breaks and angles to be sharp and true, with surfaces that are free from warp or buckle.
 - 3. Fabricate with sharply cut edges, with no displacement of aluminum sheet or protrusion of core.

2.05 FINISHES

- A. Factory Finish: fluoropolymer resin coating that meets or exceeds values expressed in AAMA 2605 where relevant to coil coatings.
 - 1. Color: To match Architects Sample

2.06 SOURCE QUALITY

- A. Source Quality: Obtain panel products from a single manufacturer.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions.

3.02 EXAMINATION

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

3.03 INSTALLATION

- A. General:
 - 1. Install panels plumb, level and true, in compliance with fabricator's recommendations.
 - 2. Anchor panels securely in place, in accordance with fabricator's approved shop drawings.
 - 3. Comply with fabricator's instructions for installation of concealed fasteners
 - 4. Installation Tolerances: Maximum deviation from horizontal and vertical alignment of installed panels: 0.25 inch in 20 feet
- B. Related Products Installation Requirements: Refer to other sections in Related Sections paragraph herein for installation of related products.

3.04 FIELD QUALITY REQUIREMENTS

- A. Field Quality Control: Comply with panel system fabricator's recommendations and guidelines for field forming of panels.
- B. Fabricator's Field Services: Upon Owner's request, provide fabricator's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with fabricator's instructions.

1. Site Visits: Duration of project

3.05 ADJUSTING

A. Adjusting:

1. Repair panels with minor damage such that repairs are not discernible at a distance of 10 feet (3 m).
2. Remove and replace panels damaged beyond repair.
3. Remove from project site damaged panels, protective film and other debris attributable to work of this section.

3.06 CLEANING

- #### A. Cleaning: Remove temporary coverings 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 installed product's finish surfaces from damage during construction.

1. Institute protective measures as required ensuring that installed panels will not be damaged.

END OF SECTION