

PW251 PANELIZED CURTAIN WALL SYSTEM

GUIDE SPECIFICATIONS

SECTION 08900 ALUMINUM CURTAIN WALL

This suggested guide specification has been developed using the current edition of the Construction Specifications Institute (CSI) "Manual of Practice," including the recommendations for the CSI 3 Part Section Format and the CSI Page Format. Additionally, the development concept and organizational arrangement of the American Institute of Architects (AIA) MASTERSPEC Program have been recognized in the preparation of this guide specification. Neither CSI nor AIA endorse specific manufacturers and products. The preparation of the guide specification assumes the use of standard contract documents and forms, including the "Conditions of the Contract," published by the AIA.

PART 1 – GENERAL

1.01 Summary

A. Section Includes: Coral Architectural Products Aluminum Curtain Wall Systems, including perimeter trims, stools, accessories, shims and anchors, and perimeter sealing of curtain wall framing.

1. Types of Coral Aluminum Curtain Wall include:
 - a. PW251 Panelized Curtain Wall System: 2-1/2" x 7" outside glazed pressure bar system captured. ([Select](#))
 - b. PW251 Panelized Curtain Wall System: 2-1/2" x 7" outside glazed pressure bar system with B.G. Mullion Option. ([Select](#))

ED NOTE: BELOW RELATED SECTIONS ARE SPECIFIED ELSEWHERE, HOWEVER CORAL ARCHITECTURAL PRODUCTS RECOMMENDS SINGLE SOURCE RESPONSIBILITY FOR ALL OF THESE SECTIONS AS INDICATED IN 2.07 SOURCE QUALITY CONTROL.

B. Related Sections:

1. Division 7 Section "Vapor Barriers" between glazed wall systems and adjacent construction
2. Division 7 Section "Fire Stopping"
3. Division 7 Section "Joint Sealants" for joint sealants installed as part of aluminum entrance and storefront systems
4. Division 8 Section "Aluminum Entrances and Storefronts"
5. Division 8 Section "Aluminum Windows Walls"
6. Division 8 Section "Aluminum Entrance Doors and Frames"
7. Division 8 Section "Aluminum Mall Sliding Doors"
8. Division 8 Section "Finish Hardware"
9. Division 8 Section "Glass and Glazing"

1.02 References (Industry Standards)

ED NOTE: REFER TO INDEX FOR ANY AND ALL APPLICABLE STANDARDS.

1.03 System Description

A. Curtain Wall System Performance Requirements:

1. Air Infiltration: The test specimen shall be tested in accordance with ASTM E 283. Air infiltration rate shall not exceed 0.06 cfm/ft² at a static air pressure differential of 6.24 PSF.
2. Water Resistance, (static): The test specimen shall be tested in accordance with ASTM E 331. There shall be no leakage at a static air pressure differential of 20 PSF as defined in AAMA 501.05. Upon completion of first water test, system shall pass a second water test at a pressure differential of 20 PSF upon completion of positive and negative design loads to demonstrate integrity of system after being subjected to high wind velocity.
3. Uniform Load: A static air design load of 60 PSF shall be applied in the positive and negative direction in accordance with ASTM E 330. There shall be no deflection in excess of L/175 of the span of any framing member at design load. At structural test load equal to 1.5 times the specified design load, no glass breakage or permanent set in the framing members in excess of 0.2% of their clear spans shall occur.
4. Water Resistance, (static): Upon completion of the Uniform Load testing in 103 A3 above, a repeat the test for static water resistance. (ASTM E331)

1.04 Submittals

A. General: Prepare, review, approve, and submit specified submittals in accordance with "Conditions of the Contract" and Division 1 Submittals Sections. Product data, shop drawings, samples, and similar submittals are defined in "Conditions of the Contract."

B. Quality Assurance/Control Submittals:

1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics.

PW251 PANELIZED CURTAIN WALL SYSTEM

GUIDE SPECIFICATIONS

1.05 Warranty

- A. Project Warranty: Refer to "Conditions of the Contract" for project warranty provisions.
- B. Manufacturer's Product Warranty: Submit, for Owner's acceptance, manufacturer's warranty for curtain wall system as follows:
1. Warranty Period: Two (2) years from Date of Substantial Completion of the project. The Limited Warranty shall begin in no event later than six months from date of shipment by Coral Architectural Products without regard to the date selected as substantial completion.

1.06 Quality Assurance

- A. Qualifications:
1. Installer Qualifications: Installer experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.
 2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method.
- B. Pre-Installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements.

1.07 Delivery, Storage, and Handling

- A. Ordering: Comply with manufacturer's ordering instructions and scheduling requirements to avoid construction delays.
- B. Packing, Shipping, Handling, and Unloading: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful weather conditions. Handle storefront material and components to avoid damage. Protect curtain wall material against damage from elements, construction activities, and other hazards before, during and after curtain wall installation.

PART 2 – PRODUCTS

ED NOTE: RETAIN BELOW ARTICLE FOR PROPRIETARY METHOD SPECIFICATION; ADD PRODUCT ATTRIBUTES, PERFORMANCE CHARACTERISTICS, MATERIAL STANDARDS, AND DESCRIPTIONS AS APPLICABLE. DO NOT USE THE PHRASE "OR EQUAL" / "OR APPROVED EQUAL," OR SIMILAR PHRASES. USE OF SUCH PHRASES CAUSES AMBIGUITY IN THE SPECIFICATIONS BECAUSE OF THE DIFFERENT INTERPRETATIONS AMONG THE DIVERGENT PARTIES OF THE CONSTRUCTION PROCESS AND READERS OF THESE SPECIFICATIONS. SUCH PHRASES REQUIRE EXTENSIVE AND COMPLETE REQUIREMENTS (PROCEDURAL, LEGAL, REGULATORY, AND RESPONSIBILITY) FOR DETERMINING "OR EQUAL."

2.01 Manufacturers (Acceptable Manufacturers/Products)

- A. Acceptable Manufacturers:
1. Address: Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, AL 35406
 - a. Telephone: 205-345-1013
 - b. Fax: 800-443-6261
 2. Proprietary Product(s)/System(s): Coral Architectural Products: Performance Wall
 - a. Series: PW251Panelized Aluminum Curtain Wall System
 - b. Finish/Color: (See 2.06 Finishes)

ED NOTE: RETAIN BELOW FOR ALTERNATE MANUFACTURERS/PRODUCTS AS SPECIFIED IN THE CONTRACT DOCUMENTS. COORDINATE BELOW WITH BID DOCUMENTS (IF ANY), AND DIVISION 1 ALTERNATES SECTION. CONSULT WITH CORAL ARCHITECTURAL PRODUCTS FOR RECOMMENDATIONS ON ALTERNATE MANUFACTURERS AND PRODUCTS MEETING THE DESIGN CRITERIA AND PROJECT REQUIREMENTS. CORAL RECOMMENDS OTHER MANUFACTURERS REQUESTING APPROVAL TO BID THEIR PRODUCT AS AN EQUAL, MUST SUBMIT THEIR REQUEST IN WRITING (10) DAYS PRIOR TO CLOSE OF BIDDING.

- B. Alternate (Manufacturers/Products): In lieu of providing below specified base bid/contract manufacturer, provide below specified alternate manufacturers. Refer to Division 1 Alternates Section.
1. Base Bid/Contract Manufacturer/Product: Coral Architectural Products
 - a. Product: Coral Architectural Products
 - b. Series: PW251Panelized Aluminum Curtain Wall System
 - c. Framing Member Profile:

PW251 PANELIZED CURTAIN WALL SYSTEM

GUIDE SPECIFICATIONS

2. Alternate # ____ Manufacturer/Product:

- a. Product:
- b. Series:
- c. Framing Member Profile:

3. Alternate # ____ Manufacturer/Product:

- a. Product:
- b. Series:
- c. Framing Member Profile:

C. Substitutions:

- 1. General: Refer to Division 1 Substitutions for procedures and submission requirements.
 - a. Pre-Contract (Bidding Period) Substitutions: Submit written requests ten (10) days prior to bid date.
 - b. Post-Contract (Construction Period) Substitutions: Submit written request in order to avoid curtain wall installation and construction delays.
- 2. Substitution Documentation
 - a. Product Literature and Drawings: Submit product literature and drawings modified to suit specific project requirements and job conditions.
 - b. Test Reports: Submit test reports verifying compliance with each test requirement for curtain wall required by the project.
 - c. Product Sample and Finish: Submit product sample, representative of storefront for the project, with specified finish and color.
- 3. Substitution Acceptance: Acceptance will be in written form, either as an addendum or modification, and documented by a formal change order signed by the Owner and Contractor.

2.02 Materials

A. Aluminum (Curtain Wall and Components):

- 1. Material Standard: Extruded Aluminum, ASTM B 221, 6063-T6 alloy and temper.
- 2. Member Wall Thickness: Each framing member shall have a wall thickness sufficient to meet the specified structural requirements.
- 3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of curtain wall members are nominal and in compliance with AA Aluminum Standards and Data.

2.03 Accessories

- A. Fasteners: Where exposed, shall be Stainless Steel.
- B. Gaskets: Glazing gaskets shall comply with ASTM C 864 and be extruded of a silicone compatible EPDM rubber that provides for silicone adhesion.
- C. Perimeter Anchors: Aluminum. When steel anchors are used, provide insulation between steel material and aluminum material to prevent galvanic action.
- D. Thermal Barrier: Thermal separator shall be extruded of a silicone compatible elastomer that provides for silicone adhesion.

2.04 Related Materials

- A. Sealants: Refer to Joint Treatment (Sealants) Section.
- B. Glass: Refer to Glass and Glazing Section.

2.05 Fabrication

- A. General:
 - 1. Fabricate components per manufacturer's installation instructions and with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
 - 2. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.
 - 3. Prepare components to receive anchor devices. Fabricate anchors.
 - 4. Arrange fasteners and attachments to conceal from view.

PW251 PANELIZED CURTAIN WALL SYSTEM

GUIDE SPECIFICATIONS

2.06 Finishes

ED NOTE: SELECT BELOW FINISH AND COLOR FROM CORAL ARCHITECTURAL PRODUCTS'S STANDARD COLORS. CUSTOM COLORS ARE AVAILABLE UPON REQUEST FROM CORAL ARCHITECTURAL PRODUCTS. OTHER POLYESTER POWDER COATINGS CONFORMING TO AAMA 2604 ARE AVAILABLE. CONSULT WITH YOUR CORAL ARCHITECTURAL PRODUCTS REPRESENTATIVE FOR OTHER SURFACE TREATMENTS AND FINISHES.

A. Shop Finishing:

1. Color Anodizing Conforming to AA-M12C22A34, AAMA 608.1, Color Anodic Coating (Color: #20 Dark Bronze). (Standard)
2. Clear Anodizing Conforming to AA-M12C22A31, AAMA 607.1, Clear Anodic Coating (Clear: #10) (Standard)
3. DECAFLON™ (70%) Fluoropolymer, AAMA 2605, Thermosetting Fluorocarbon Powder Coating (Color: _____).
4. NEWLAR™ (100%) Fluoropolymer, AAMA 2605, Thermosetting Fluorocarbon Powder Coating (Color: _____).
5. ARC2001™ AAMA 2604, Polyester Powder Coating. (Color: _____).
6. Other: Manufacturer _____ Type _____ (Color _____).

2.07 Source Quality Control

A. Source Quality: Provide aluminum curtain walls specified herein from a single source.

1. Building Enclosure System: When aluminum curtain wall are part of a building enclosure system, including entrances, entrance hardware, windows, storefront framing and related products, provide building enclosure system products from a single source manufacturer.

PART 3 – EXECUTION

3.01 Examination

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions. Verify openings are sized to receive curtain wall system and sill plate is level in accordance with manufacturer's acceptable tolerances.

1. 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.

ED NOTE: COORDINATE BELOW ARTICLE WITH MANUFACTURER'S RECOMMENDED INSTALLATION DETAILS AND INSTALLATION INSTRUCTIONS.

3.02 Installation

A. General: Install curtain wall systems plumb, level, and true to line, without warp or rack of frames with manufacturer's prescribed tolerances and installation instructions. Provide support and anchor in place.

1. Dissimilar Materials: Provide separation of aluminum materials from sources of corrosion or electrolytic action contact points.
2. Glazing: Glass shall be outside glazed and held in place with extruded aluminum pressure bars anchored to the mullion using stainless steel fasteners spaced no greater than 9" on center.
3. Water Drainage: Each light of glass shall be compartmentalized by using end dams at horizontal/vertical joint intersections and silicone sealant to divert water to the horizontal weep locations. Weep holes shall be located in the horizontal pressure bars and covers to divert water to the exterior of the building.

B. Related Products Installation Requirements:

1. Sealants (Perimeter): Refer to Division 7 Joint Treatment (Sealants) Section.
2. Glass: Refer to Division 8 Glass and Glazing Section.
- a. Reference: ANSI Z97.1, CPSC 16 CFR 1201 and GANA Glazing Manual

3.03 Field Quality Control

A. Field Tests: Architect shall select curtain wall units to be tested as soon as a representative portion of the project has been installed, glazed, perimeter caulked and cured. Conduct tests for air infiltration and water penetration with manufacturer's representative present. Tests not meeting specified performance requirements and units having deficiencies should be corrected as part of the contract amount.

1. Testing: Testing shall be performed per AAMA 503 by a qualified independent testing agency. Refer to Division 1 Testing Section for payment of testing and testing requirements.

PW251 PANELIZED CURTAIN WALL SYSTEM

GUIDE SPECIFICATIONS

- a. Air Infiltration Tests: Conduct tests in accordance with ASTM E 783. Allowable air infiltration shall not exceed 1.5 times the amount indicated in the performance requirements or 0.09 cfm/ft^2 , which ever is greater.
- b. Water Infiltration Tests: Conduct tests in accordance with ASTM E 1105. No uncontrolled water leakage is permitted when tested at a static test pressure of two-thirds the specified water penetration pressure but not less than 8 PSF.
- B. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with manufacturer's instructions.

3.04 Protection and Cleaning

- A. Protection: Protect installed product's finish surfaces from damage during construction. Protect aluminum curtain wall system from damage from grinding and polishing compounds, plaster, lime, acid, cement, or other harmful contaminants.
- B. Cleaning: Repair or replace damaged installed products. Installed products are to be cleaned in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

DISCLAIMER STATEMENT

This guide specification is intended for use by a qualified construction specifier. The guide specification is not intended to be verbatim as a project specification without appropriate modifications for the specific use intended. The guide specification must be used and coordinated with the procedures of each design firm, and the particular requirements of a specific construction project.

END OF SECTION 08900

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