

SECTION 08410

ALUMINUM ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.1 SECTION REQUIREMENTS

- A. Interior and Exterior Aluminum Storefront Framing, Spandrel panels, Doors, Door Frames, and Lights.
- B. Reinforcing, Anchors, Brackets, and Attachments
- C. Door Hardware
- D. Refer to Section 08800 for Glazing

1.2 System Design Requirements:

- A. Drawings are diagrammatic and do not purport to identify nor solve problems of thermal or structural movement, glazing, anchorage, or moisture disposal.
- B. Requirements shown by details are intended to establish basic dimension of units, sight lines and profiles of members.
- C. Provide concealed fasteners to the greatest extent possible. Attachment considerations are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.
- D. Provide for expansion and contraction due to structural movement without detriment to appearance or performance.

1.3 Performance Requirements:

- A. Refer to structural notes on Sheet S0.1 for structural performance requirements and exposure ratings for systems. Provide certification by licensed structural engineer that system meets requirements.
- B. Anchors, fasteners and braces shall be structural stressed not more than 50% of allowable stress when maximum loads are applied.

1.4 Quality Control

- A. Certify that the proposed products have been tested to the following performance standards at an independent testing laboratory accredited by AAMA and using the referenced ASTM standards:
 - 1. Water Penetration: ASTM E331 no water penetration at a test pressure of 10 PSF.
 - 2. Structural Properties: Comply with forces per local code requirements for wind pressure acting inward and outward per ASTM E330. Deflection is not to exceed 1/175 of span.
 - 3. Air Leakage per ASTM E283:
 - a. Fixed window walls - maximum of 0.06 CFM per sq. ft. of total exterior surface area at a differential static pressure of 6.24 psf.
 - 4. Thermal Performance: Composite glass wall shall meet or exceed the "U" value indicated on the Drawings and as tested per ASTM E 236.
 - 5. System to provide for expansion and contraction within system components caused by a cycling temperature range of 170 degrees F without causing detrimental effects to system or components. System to accommodate, without damage to system or components, or deterioration of perimeter seal: Movement within system; movement between system and

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perimeter framing components; dynamic loading and release of loads; and deflection of structural support framing.

- a. Ensure doors function properly within limits of specified temperature range.
- B. Warranty on Aluminum Framing: 5 years against leaks, structural inadequacy and defects.
- C. Shop Drawings: Submit shop drawings covering fabrication, installation and finish of specified systems, including:
 1. Fully dimensioned plans and elevations with detail coordination keys
 2. Locations of exposed fasteners and joints.
 3. System reinforcements and anchorages.
 4. System expansion and contraction provisions.
 5. Glazing methods and accessories.
 6. Internal sealant requirements.
- D. Samples: Submit samples of each type of aluminum finish indicating quality of finish and a sample of each type of glass to be used.

PART 2 - PRODUCTS

2.1 STOREFRONT AND FIXED WINDOW SYSTEMS

- A. Storefront System: Tube framing with thermal break and front glazing, Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 1. Basis of Design: "Series 3000" by Vistawall Architectural Products, Terrell, Tx.
 - a. Flush Glazed, center set, thermally broken with polyurethane break, 2" x 4-1/2" mullion profile, with ability to accept 1" glazing. System is to match systems on existing building.
 2. Alternate manufacturers products may be substituted if profiles match and approved by Architect prior to acceptance by the Owner.
- B. Awning System: Columbia C-2000 with screens by Vistawall. Provide anodized or brushed chrome handles and locking operators, coordinate with storefront locations.
- C. Aluminum Spandrel Panels: Aluminum facing with clear anodized finish on interior and exterior with insulating, honeycomb core. Total thickness 1 inch.
- D. Aluminum Finish: Provide each of the following finishes as noted on exterior elevations.
 1. Clear anodized – Architectural Class II, etched, medium matte, clear anodic coating, 0.4 mil minimum thickness, conforming to AA-M12C22A31 and AAMA 607.1.
 2. Black Anodized – Architectural Class II, etched, medium matte, black color anodic coating, 0.4 mil minimum thickness, conforming to AA-M12C22A44 and AAMA 606.1 and 608.1.
 3. Organic Coating (high performance fluorocarbon) Painted Finish - Exposed aluminum surfaces shall have a manufacturer-applied, 5-year warrantee, Kynar 500 fluorocarbon finish, free from blemishes and surface defects complying with requirements of AAMA 2605.
 - a. Primer: Conversion coating pre-treatment prior to application of 0.3 mil dry film thickness of epoxy or acrylic primer following recommendations of finish coat manufacturer.
 - b. Finish Coat: Fluorocarbon resin finish fused to primed surfaces at temperature recommended by manufacturer, 1.0 mil minimum dry film thickness.

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1. Color: To Match Benjamin Moore HC 135 "Lafayette Green".

E. Weep Systems:

1. Design glazing system so that moisture does not accumulate in the glazing channel.
2. Incorporate enough weep holes to ensure complete drainage.
3. Coordinate weeps with wall finishes.

2.2 ENTRY DOORS

A. Entry Doors: Subject to compliance with requirements, manufacturers offering specified items which may be incorporated in the Work include the following:

1. "500 Wide Style" - Vistawall Architectural Products.
 - a. 5-1/8" Stile, 4-3/4" top rail and 8-3/4" bottom rail.
2. Doors to have insulated cores

B. Aluminum Finish: Same as adjacent storefront system – clear anodized.

C. Hardware: Provide manufacturer's standard heavy duty hardware as shown, scheduled or required for operation of the door.

1. Butt Hinges: 1-1/2 pair, 4-1/2 x 4 ball-bearing butt hinge with non-removable pin.
2. Overhead exposed closers: Norton 1604 or LCN 4041-CUSH with STAT cover, surface closer with delayed action for handicapped use. Cover painted to match door finish.
3. Deadlocks: Dur-O-Matic 1690 concealed vertical rod exit device – anodized finish.
4. Construction cylinders: supply and replace with cylinders in 08710.
5. Pull, Style "PH-20" by Vistawall, or approved substitution by other listed manufacturer, Finish to be brushed Chrome US26.
6. Push, Style "PB-20" by Vistawall, or approved substitution by other listed manufacturer. Finish to be brushed Chrome US26. Provide Adams-Rite panic bar if required by Owners security system.
7. Handicapped Threshold: "TH-43" by Vistawall, extruded aluminum in clear anodized finish, complete with anchors and clips.
8. Weather stripping - 3 sides
9. Bottom Sweep
10. Provide no cylinders in aluminum doors
11. Final, panic devices, electric strikes and card readers by Section 08700.

2.3 GLAZING MATERIALS

A. Coordinate with other glazing on the project. Refer to Section 08800 - Glazing.

2.4 FLASHINGS

A. Form flashings from sheet aluminum with the same finish as extruded sections. Material thickness as required to suit conditions without deflection or "oil canning".

2.5 SEALANTS

A. For metal to metal joints use Standard Products Company Stan Pro Urethane Epoxy Sealant No. 103, Dow Corning Silicone Rubber Sealant, or other as acceptable to Architect, color to match finish of Aluminum to which applied.

B. All Backer rod to be closed cell.

C. For perimeter of framing members, refer to Section 07920 - Joint Sealers.

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2.6 INSULATION

- A. Provide insulation within framing members as required to maintain thermal break between system and adjacent building construction.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Isolate metal surfaces in contact with incompatible metal or corrosive substrates, including wood, by painting contact surfaces with bituminous coating or primer, or by applying sealant or tape recommended by manufacturer.
- B. Install components to provide a weatherproof system.
- C. Provide concealed fasteners to the greatest extent possible.
- D. Reinforce work as necessary for performance requirements, and for support to structures.
- E. Install framing components true in alignment with established lines and grades to the following tolerances:
 - 1. Variation from Plane: Limit to 1/8 inch in 12 feet; 1/4 inch over total length.
 - 2. Alignment: For surfaces abutting in line, limit offset to 1/16 inch. For surfaces meeting at corners, limit offset to 1/32 inch.
 - 3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch.
- F. Install doors without warp or rack. Adjust doors and hardware to provide tight fit at contact points and smooth operation.
- G. Clean all metal surfaces in compliance with manufacturers recommendations; remove excess mastic, mastic smears, foreign materials and other unsightly marks, exercising care to avoid damage.

END OF SECTION