ARCH 478
OFFICE BUILDING

SECTION 08410

ALUMINUM ENTRANCES AND STOREFRONTS

PART 1  GENERAL

1.01  SECTION INCLUDES
A. Aluminum-framed storefront, with vision glass and glass infill panels.
B. Aluminum doors and frames and door hardware.
C. Perimeter sealant.

1.02  RELATED SECTIONS
A. Section 08460 - Automatic Entrance Door Operator.
B. Section 08710 - Door Hardware:  Hardware items other than specified in this section.
C. Section 08800 - Glazing.

1.03  REFERENCES
B. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; American Architectural Manufacturers Association; 1997.

1.04  PERFORMANCE REQUIREMENTS
A. Design and size components to withstand the following load requirements without damage or permanent set, when tested in accordance with ASTM E 330, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
1. Design Wind Loads:  Comply with requirements of ASCE 7.
2. Member Deflection:  Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
B. Movement:  Accommodate movement between storefront and perimeter framing and deflection of lintel, without damage to components or deterioration of seals.
C. Thermal resistance of combined system (framing and vision areas) to meet requirements noted on Drawings.
D. Air Infiltration:  Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of wall area, measured at a reference differential pressure across assembly of 1.57 psf as measured in accordance with ASTM E 283.
E. Water Leakage:  None, when measured in accordance with ASTM E 331 with a test pressure difference of 2.86 lbf/sq ft.
F. System Internal Drainage:  Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture
occurring within system.

G. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.

1.05 SUBMITTALS
A. See Section 01300 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, internal drainage details.
C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.
D. Design Data: Provide framing member structural and physical characteristics, dimensional limitations.
E. Samples: Submit one sample 12 x 12 inches in size illustrating finished aluminum surface, glass, glazing materials.
F. Manufacturer’s Certificate: Certify that the products supplied meet or exceed the specified requirements.
G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.06 QUALITY ASSURANCE
A. Manufacturer and Installer: Company specializing in manufacturing aluminum glazing systems with minimum three years of documented experience.

1.07 PRE-INSTALLATION MEETING
A. Convene one week before starting work of this section.

1.08 DELIVERY, STORAGE, AND PROTECTION
A. Handle products of this section in accordance with AAMA CW-10.
B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond to aluminum when exposed to sunlight or weather.

1.09 ENVIRONMENTAL REQUIREMENTS
A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Arcadia Architectural Products, Inc..
B. Other Acceptable Manufacturers:

2.02 COMPONENTS
A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
   1. Finish: Class II color anodized.
   2. Color: Dark bronze.
B. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
   2. Cross-Section: 2 x 4-1/2 inch nominal dimension.

C. Doors: Glazed aluminum.
   2. Top Rail: 5-1/2 inches wide.
   5. Glazing Stops: Square.
   6. Finish: Same as storefront.

2.03 MATERIALS
B. Fasteners: Stainless steel.
C. Exposed Flashings: 0.032 inch thick aluminum sheet; finish to match framing members.
D. Perimeter Sealant: Type specified in Section 07900.
E. Glass: As specified in Section 08800.
F. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.04 FINISHES
A. Comply with AA DAF-45 for aluminum finishes required.
B. Class II Color Anodized Finish: AAMA 611 AA-M12C22A34 Electrolytically deposited colored anodic coating not less than 0.4 mils thick, dark bronze.
C. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.05 HARDWARE
A. Door Hardware: As specified in Section 08710, and below.
B. Door Hardware: Storefront manufacturer’s standard type to suit application.
   2. Include for each door weatherstripping, sill sweep strip, threshold, butt hinges, push handle, and pull handle.
C. Automatic Door Operators and Actuators: As specified in Section 08460.

2.06 FABRICATION
A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
C. Prepare components to receive anchor devices. Fabricate anchors.
D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
E. Arrange fasteners and attachments to conceal from view.
F. Reinforce components internally for door hardware and door operators.
G. Reinforce framing members for imposed loads.
H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
   1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify dimensions, tolerances, and method of attachment with other work.
B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 INSTALLATION
A. Install wall system in accordance with manufacturer’s instructions.
B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
C. Provide alignment attachments and shims to permanently fasten system to building structure.
D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
E. Provide thermal isolation where components penetrate or disrupt building insulation.
F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
G. Coordinate attachment and seal of perimeter air and vapor barrier materials.
H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
I. Install glass in accordance with Section 08800, using glazing method required to achieve performance criteria.
J. Install perimeter sealant in accordance with Section 07900.

3.03 ERECTION TOLERANCES
   A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft, whichever is less.
   B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.04 ADJUSTING
   A. Adjust operating hardware for smooth operation.

3.05 CLEANING AND PROTECTION
   A. Remove protective material from pre-finished aluminum surfaces.
   B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
   C. Remove excess sealant by method acceptable to sealant manufacturer.
   D. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
   E. Protect finished work from damage.

END OF SECTION