SECTION 08410

ALUMINUM ENTRANCES, FIXED WINDOWS & PASS-THRU WINDOWS

PART 1 - GENERAL

1.01 SUMMARY

A. Provide aluminum entrance curtain walls and window walls where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Section 08710: Furnishing Finish Hardware.
3. Section 08800: Glazing.

C. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications, and the Building Code, the more stringent shall govern.

1.02 SUBMITTALS

A. Comply with pertinent provisions of Section 01300.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
1. Materials list of items proposed to be provided under this Section;
2. Manufacturer's specifications, calculations, and other data needed to prove compliance with the specified requirements;
3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

C. Samples: Accompanying the Shop Drawings, submit:
1. Sample of each exposed member.
2. Samples of finish, showing complete range of color from darkest to lightest proposed for use on this Work. Samples, when approved by the Architect, will be used to verify that finish actually furnished is within the approved range.

1.03 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Performance Requirements.
   1. Air infiltration shall be tested In accordance with ASTM E283. Do not exceed .06 CFM/s.f.
   2. Water infiltration shall be tested In accordance with ASTM E331. No water penetration at 15 P.S.F. (8 P.S.F. at 0S-2 system).
   3. The system shall exceed the maximum seismic lateral displacement requirements in the latest adopted U.B.C.
   4. Thermal performance shall be tested In accordance with AAMA 1503.1-88.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01600.

1.05 WARRANTY

A. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect two copies of a written Warranty agreeing to replace work of this Section which fails due to defective materials or workmanship within three years after Date of Substantial Completion as that Date is determined in accordance with the General Conditions.

B. Failure due to defective materials or workmanship is deemed to include, but not to be limited to:
   1. Failures in operation of operating component or components;
   2. Deterioration of finish to an extent visible to the unaided eye;
   3. Defects which contribute to unsightly appearance, potential safety hazard, or potential untimely failure of the work of this Section or the Work as a whole.

PART 2 - PRODUCTS

2.01 ALUMINUM ENTRANCES AND STOREFRONTS

A. Provide aluminum curtain walls where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Curtain wall system and entrances shall be AG451 curtain wall series, by Arcadia, or equal. Sizes shall be as shown on plans, with 1" dual glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in Arcadia factory anodized finish:
   1. Color to be Standard Medium Bronze AB-5

2.02 EXTERIOR ALUMINUM FRAMED WINDOWS

A. Provide aluminum-framed exterior windows where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Window frames shall be Series AG451 window wall series, by Arcadia, or equal. Size shall be as shown on plans, with 1" dual glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in Arcadia factory anodized finish:
   1. Color to be Standard Medium Bronze AB-5

2.03 ALUMINUM SLIDING DOOR

A. Provide aluminum and glass sliding doors where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Sliding doors shall be Series ULT5820 Multi-Sliding Door, by Arcadia, or equal. Size shall be as shown on plans and schedules, with 1/4" tempered glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in Arcadia factory anodized finish:
   1. Color to be Standard Medium Bronze AB-5

2.04 INTERIOR ALUMINUM FRAMED WINDOWS

A. Provide aluminum framed interior windows where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Window frames shall be AR450 Series, by Arcadia, or equal. Size shall be as shown on plans and schedules, with 1/4" tempered glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in Arcadia factory anodized finish:
   1. Color to be Standard Medium Bronze AB-5

2.05 ALUMINUM FRAMED PASS-THRU WINDOWS

A. Provide aluminum framed vertical pass-thru windows where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Window frames shall be System 52 Single Hung window, by Arcadia, or equal. Size shall be as shown on plans and schedules, with 1" dual glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in Arcadia factory anodized finish:
   1. Color to be Standard Medium Bronze AB-5

2.06 ALUMINUM FRAME FOR GRAPHICS APPLICATION

A. Provide aluminum frame system where indicated on the Drawings. Dimensions and arrangements shall be as shown on the Drawings.
   1. Frames shall be aluminum J-220 tubes, 2"x2", by U.S. Aluminum, or equal. Size shall be as shown on plans and schedules, without glazing.
   2. Provide other materials not specifically described but required for a complete and proper installation.

B. Finish all exposed aluminum in U.S. Aluminum factory anodized finish:
   1. Color to be Classic Bronze 397B509.

2.07 FABRICATION

A. Fabricate in strict accordance with the manufacturers' specifications and Shop Drawings as approved by the Architect, prefabricating in the shop to the maximum extent practicable.

B. Provide hairline fit at joints, with smooth continuity of line and accurate relation of planes and angles. Securely fasten.

C. Design responsibility: Notwithstanding anything to the contrary, provide sections which are designed to withstand a minimum 20 PSF windload with a maximum deflection of 1/175 of the span of the members. Design with an allowable stress safety factor of 1.65. Wherever necessary, provide steel stiffeners, coated with heavy bituminous material, to meet deflection requirements. Submit with the Shop Drawings design calculations which support these requirements. Such calculations shall be made and attested to by a Registered Professional Engineer licensed in the State of California.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 COORDINATION

A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

B. Make measurements as required in the field to assure proper fit.

3.03 INSTALLATION

A. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Architect, anchoring all components firmly into position for long life.

B. Coordinate as necessary with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

C. Erection: Aluminum entrance doors and curtain wall construction, and aluminum framed windows shall be installed by workmen skilled in architectural and ornamental metal work. Install aluminum work under this Section, complete, including trim and other items of finish, as indicated on the Drawings. Anchorage to building structure shall be secure, in accordance with approved Shop Drawings. Set all frames level, plumb, and in true alignment.

1. Furnish all necessary setting accessories, including screws, chairs, fittings, anchors, setting blocks and glazing gaskets, as indicated and required for a complete installation.
2. Install doors complete with all finish hardware, and cylinders furnished under Finish Hardware Section.

D. Protection after installation: Take particular care to protect all exposed aluminum work from structural damage or damage to finish as a result of other work subsequently performed or from other causes. Any material becoming damaged prior to acceptance of building, and which is not subject to repair as approved or authorized by Owner's designated representative, shall be removed and replaced with new work at no additional cost to the Owner.

E. Protection of contact surfaces: Protect aluminum surfaces in contact with dissimilar metals or with incompatible materials such as concrete, masonry and plaster, by painting contact surfaces with bituminous paint before installation or isolating in an approved manner with non-absorptive tape or gaskets.

F. Expansion and contraction: Install aluminum work so as to avoid objectionable distortion or over stress of parts and fastenings resulting from thermal expansion and contraction.

G. Remove protective coating completely from exposed surfaces as soon as progress of the Work will permit with safety.

H. When glazing is performed under this Section, provide the types of glass required and glaze in accordance with pertinent provisions of Section 08800 of these Specifications.

END OF SECTION - 08410