

**PART I – GENERAL****WORK SPECIFIED HEREIN**

- All labor, materials, equipment and services necessary to furnish and install all exterior/interior aluminum storefront, interior aluminum doors and frames, aluminum framing for interior window units and other related materials as indicated or specified.

**SUBSTITUTIONS**

- In accordance with Section 01600.

**SUBMITTALS**

- Unless otherwise noted, the contractor shall prepare all shop drawings, product literature, etc. only as required to properly coordinate and construct the project.
- Review of submittals by the Professional of Record is limited to specific shop drawings as called for in the Project Manual.
- Shop drawings for review by the Professional of Record are not required for this section.

**QUALITY ASSURANCE***Standards:*

- Except as otherwise indicated, the requirements for aluminum doors and frames, and the terminology used in this Section, are those of NAAMM, AAMA and AA and in particular, those of the "Entrance Manual" by NAAMM.

*Manufacturer:*

- Refer to Materials and Product Schedule on Drawings.

*Sizes and Profiles:*

- The required sizes for exterior/interior storefronts, door and frame units, interior window units and profile requirements are as shown.

**JOB CONDITIONS***Coordination of Fabrication:*

- Check the actual openings in the construction work by accurate field measurement before fabrication, and show recorded measurements on final shop drawings. However, coordinate fabrication schedule with construction progress as directed and avoid delays of the work.

**ENVIRONMENTAL REQUIREMENTS**

- Do not begin installation of aluminum frames until area of work has been completely enclosed and interior is protected from the elements.
- Maintain temperature and humidity in areas of installation within reasonable limits, as close as possible to final occupancy standards. If necessary, provide artificial heating, cooling and ventilation to maintain required environmental conditions.

**WARRANTY**

- Contractor guarantees that the manufacturer, installer and contractor will replace aluminum window wall units which fail in materials or workmanship within 2 years of the date of acceptance. Failure of materials or workmanship shall include (but not be limited to) excessive leakage or air infiltration, excessive deflections, deterioration of finish or metal in excess of normal weathering and defects in accessories, weatherstripping, and other components of the work.

**SYSTEM PERFORMANCE**

Provide manufacturer's stock system, adapted to application indicated, which has been tested in accordance with ASTM E 330 to withstand at least the following loading:

- Uniform pressure of 30 psf inward and 25 psf outward. Or as required by Building Code (whichever is greater).
- Maximum deflection of window wall shall be 1/175 of span.

Manufacturer entrances and storefronts shall have been in accordance with ASTM E 283, not to leak air more than .06 cm per sq. ft. wall area and in accordance with ASTM E 331 for water leakage.

**PART II – PRODUCTS****MATERIALS AND ACCESSORIES**

- Type: Provide center glazed system for exterior storefront system and center glazed system for interior framing systems with medium stile doors.
- Main storefront system: Provide anodized frame members prepared to receive 1" thick tempered glass units as indicated on drawings.
- Tempered glass - 1/4" glass at all interior locations, unless noted otherwise.
- Materials: Frames - Extruded 6063-T5 Aluminum alloy not less than 0.80" thick.
- Aluminum Members: allow and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish; ASTM B 221 for extrusions, ASTM B209 for sheet/plate.
- Finish for aluminum: Cleaned caustic-etched anodized finish - clear, unless noted otherwise.
- Factory finish extruded frame and door components so that any part exposed to view upon completion of installation will be uniform in finish and color.
- Fasteners: Aluminum, non-magnetic stainless steel, or other materials warranted by manufacturer to be non-corrosive and compatible with aluminum components.

- Use concealed fasteners except where unavoidable, for application of hardware. Match finish of adjoining metal.
- Provide Phillips flat-head machine screws for exposed fasteners.
- Sill Flashing: Extruded aluminum.
- Brackets and Reinforcements: Manufacturer's high-strength aluminum units where feasible; otherwise, non-magnetic stainless steel or hot-dip galvanized steel complying with ASTM A 386.
- Concrete/Masonry Inserts: Cast iron, malleable iron, or hot-dip galvanized steel complying with ASTM A 153.
- Bituminous Coatings: Cold-applied asphalt mastic complying with SSPC-PS 12, compounded for 30-mil thickness per coat.
- Clear Protective Coatings: AAMA 602.2, compounded specifically for protection of aluminum finish during construction.
- Compression weatherstripping: Manufacturer's standard replacement stripping of molded neoprene gaskets complying with ASTM D 200.
- Glass and glazing materials: Provide glass and glazing materials which comply with requirements of "Glass and Glazing" section of these specifications.

### FABRICATION

#### General

- Sizes and Profiles: Required sizes for storefront, door and frame units, including profile requirements, are shown on drawings. Any variable dimensions are indicated together with maximum and minimum dimensions required to achieve design requirements and coordination with other work.
- Prefabrication: To the greatest extent possible, complete fabrication, assembly, finishing hardware application, and other work before shipment to project site. Disassemble components only as necessary for shipment and installation.
- Do not drill and tap for surface-mounted hardware items until time of installation at project site.
- Sequence: Complete cutting, fitting, forming, drilling and grinding of metal work prior to cleaning, finishing, surface treatment, and application of finishes. Remove arises from cut edges and ease edges and corners to radius of approximately 1/64".
- Welding: Comply with AWS recommendations to avoid discoloration; grind exposed welds smooth and restore mechanical finish.
- Reinforcing: Install reinforcing as necessary for performance requirements; separate dissimilar metals with bituminous paint or other separator which will prevent corrosion.
- Continuity: Maintain accurate relation of planes and angles, with hairline fit of contacting members.

- Fasteners: Concealed wherever possible.

Professional of Record reserves the right to require samples of typical fabricated sections, showing joints, exposed fastening (if any) quality of workmanship, hardware and accessory items, before fabrication of the work proceeds.

### STYLE-AND-RAIL TYPE ALUMINUM DOORS

**Frame:** Provide tubular frame members, fabricated with mechanical joint using heavy inserted reinforcing plates and concealed tie-rods or j-bolts, or fabricate with structurally welded joints, at manufacturer's option.

**Style:** Except as otherwise shown or scheduled, provide doors of medium style, as described in AAMA publications, prepared to receive 1/4" thick safety glass.

**Glazing:** Fabricate doors to facilitate replacement of glass or panels, without disassembly of door stiles and rails. Provide snap-on extruded aluminum glazing stops, with exterior stops anchored for non-removal.

**Note:** All doors shall include gaskets and sweep, cylinder (where hardware supplier cylinders are not provided - See Section 8700), pull/push handles, and cart guards as indicated on drawings (Threshold at exterior aluminum doors only.) Provide a closer at all locations.

### FINISHES

Clear (AA-M12C22A31) (min. thickness 0.4 mil.) unless noted otherwise (see interior elevations).

## PART III – EXECUTION

### INSPECTION

The storefront contractor must examine the supporting structure and for the conditions under which the work is to be erected, and notify the contractor in writing of conditions detrimental to proper and timely completion of the work. Do not proceed with erection until unsatisfactory conditions have been corrected in a manner acceptable to the storefront contractor.

### INSTALLATION

Do not install component parts which are observed to be defective in any way, including warped, bowed, dented, abraded and broken members and including glass with glass damage. Remove and replace members which have been damaged during installation or thereafter before the time of final acceptance.

## **SECTION 08411: ALUMINUM FRAMED ENTRANCES AND STOREFRONTS**

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Do not cut, trim, weld or braze component parts during erection, in any manner which would damage the finish, decrease the strength, or result in a visual imperfection or a failure in performance of the storefront. Return component parts which require alteration to the shop for refabrication, if possible, or for replacement by new parts.

Install component parts level, plumb, true to line and with uniform joints and reveals. Secure to structure with non-staining and non-corrosive shims, anchors, fasteners, spacers and fillers. Use erection equipment which will not mar or stain finished surfaces and will not damage the component parts in any way.

### **CLEANING AND PROTECTION**

The storefront contractor shall advise the general contractor of proper and adequate means for protection of portions of the work which are exposed to likely sources of damage during the remainder of the construction period, including the probable areas of glass breakage or deterioration.

Immediately before the time of final acceptance the storefront contractor shall clean all aluminum framing, glass, etc., thoroughly, inside and out, demonstrate proper cleaning methods to the Owner's maintenance personnel during this final cleaning. Prepare a "Cleaning and Maintenance Manual" listing the types of cleaning compounds, cleaning methods, and types of sealants and glazing materials to be used for cleaning, repair and maintenance of the work.

### **END OF SECTION**

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