



Series 170

Fiber Reinforced Polymer (FRP) Doors

GUIDE SPECIFICATIONS – SECTION 084113

ALUMINUM FRAMED ENTRANCES AND STOREFRONTS

Manko Window Systems, Inc.

FRP Flush Aluminum Entrance Doors

SECTION 084113 ALUMINUM FRAMED FRP FLUSH ENTRANCES AND STOREFRONTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes
 - 1. Furnish all necessary materials, labor and equipment for the complete installation of aluminum entrance systems as shown on the drawings and herein specified. Structural support of the framing system is not included.
 - 2. Types of Manko Aluminum Entrances include
 - a. Heavy Duty Door; Fiberglass Reinforced Polyester (FRP), urethane foam-filled door, flush design, high traffic and high abuse, impact resistant.

1.02 SYSTEM PERFORMANCE REQUIREMENTS

- A. Test Units
 - 1. Air test unit shall be minimum size of 36" (914 mm) x 84" (2134 mm).
- B. Test Procedures and Performances
 - 1. Air Infiltration Test
 - a. With door sash closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 1.57 psf (75 Pa).
 - b. Air infiltration shall not exceed .50 cfm/SF (2.54 l/s·m²) of unit, for single doors.

1.03 SUBMITTALS

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

1.04 QUALITY ASSURANCE

- A. Submit certified independent laboratory test reports verifying compliance with all test requirements of 1.02 System Performance Requirements as requested by architect.
- B. Test reports shall be accompanied by the entrance door manufacturer's letter of certification stating that the tested door meets or exceeds the referenced criteria for the appropriate AAMA door type.
- C. Qualifications: Upon request, the manufacturer will provide written confirmation that the installer is authorized to install aluminum entrance products to be used on this project.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Packing, Shipping, Handling, and Unloading
 - 1. Materials will be packed, loaded, shipped, unloaded, stored and protected in accordance with AAMA CW-10.

1.06 WARRANTY

- A. Aluminum Entrance Warranty
 - 1. Products: Submit a written warranty, executed by the aluminum entrance manufacturer, for a period of 2 years (10 years for insulated glass seal failure) from the date of manufacture, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the aluminum entrance, finish, factory-glazed glass, or parts, outside of normal wear.
 - a. In the event that the aluminum entrances or components are found defective, manufacturer will repair or provide replacements without charge at manufacturer's option.
 - b. Warranty for all components must be direct from the manufacturer (non-pass through) and non-prorated for the entire term. Warranty must be assignable to the non-residential owner, and transferable to subsequent owners through its length.
 - 2. Installation: Submit a written warranty, executed by the aluminum entrance installer, for a period of 2 years from the date of substantial completion, against defective materials or workmanship, including substantial non-compliance with applicable specification requirements, which result in premature failure.
 - a. In the event that installation of aluminum entrances or components is found to be defective, installer will repair or provide replacements without charge at the installer's option.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer
 - 1. Drawings and specifications are based on: Manko Window Systems 170 Series FRP Flush Aluminum Doors
- B. Substitutions
 - 1. Other manufacturers' products that meet or exceed specified design requirements may be considered. Submit the following information with request for substitutions at least ten (10) working days prior to bid date.
 - a. Test reports specified in 1.02 SYSTEM PERFORMANCE REQUIREMENTS
 - b. Full proposal details and samples specified in 1.03 SUBMITTALS
 - c. Copy of manufacturer's warranty specified in 1.06 WARRANTY
 - d. Other information as requested for evaluation
 - 2. Substitute products not pre-approved by the Architect via addendum will not be considered.

2.02 MATERIALS

- A. Aluminum (Entrances and Components)
 - 1. Material Standard: ASTM B221; 6063-T5 or 6063-T6 alloy and temper.
 - 2. Door face sheets shall be pebbled texture fiberglass reinforced polyester (FRP) 0.120" thick Class A sheet. For interior and exterior, 1/8" tempered hardboard backer to be used with a face sheet for impact resistance.
 - 3. Core of flush doors shall be foamed-in-place Class 1 urethane foam. Where applicable aluminum interior fire shield shall be assembled into product as required by building code.
 - 4. The door stile and rail face dimensions entrance door will be as follows:

Door	Vertical Stile	Top Rail	Bottom Rail
Flush	4 1/2"	5 1/16"	5 1/16"
 - 5. Mechanical joints of stiles and rails shall have extruded aluminum gussets with concealed 5/16" tie-rods.
 - 6. Perimeter caps shall be extruded aluminum with the bottom cap having dual integral grooves to receive nylon brush door sweep.
 - 7. Frame portions shall be complete with head and jamb weatherstripping, threshold, and door sweep. [Editor's note: Select 1 3/4" x 4 1/2" (450) or 2" x 4 1/2" (1450)]
 - 8. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of entrance members are nominal and in compliance with Aluminum Standards and Data. Fasteners, where exposed, shall be aluminum, stainless steel or zinc plated steel in accordance with ASTM A164. Perimeter anchors shall be aluminum or steel, providing the steel is properly isolated from the aluminum.

2.03 COMPONENTS

- A. Hardware
 - 1. Hinging [Editor's note: Select from options as noted]
 - a. Continuous hinge
 - b. Provide hardware as specified in Section 08700
 - 2. Locking [Editor's note: Select from options as noted]
 - a. Maximum security locking
 - b. Rim panic exit device
 - c. Provide hardware as specified in Section 08700
 - 3. Pull Handles [Editor's note: Select from options as noted]
 - a. Thru-bolted offset pull handle
 - b. Recessed pull handle
 - 4. Closures [Editor's note: Select from options as noted]
 - a. Surface mounted closer
 - b. Provide hardware as specified in Section 08700

2.04 FABRICATION

- A. General
 - 1. Major portions of the door sections shall have .125" (3 mm) wall thickness.
- B. Entrance Doors
 - 1. Door stiles shall be no less than 4 1/2" wide face dimension and 1 3/4" overall depth.
 - 2. Reinforcing plates shall be installed to accept specified hardware.
 - 3. Where a pair of door leaves comprise a single opening and no dividing center post is provided, the edge of one door leaf shall be equipped with an astragal and the other shall have an adjustable bullnose with two wool pile weather strips.
- C. Glazing
 - 1. All units shall be dry glazed with extruded pressure fitting aluminum glazing stops, and a gasket that complies with ASTM E 2203 specification. See Section 08800 for glazing types.

2.05 FINISHES

- A. Finish of Aluminum Components
 - 1. Finish of all exposed areas of aluminum windows and components shall be done in accordance with the appropriate AAMA Voluntary Guide Specification shown (select from below).

Designation	Description	Standard	Color
AAM12C21A41	Clear - Class I	AAMA 611	Clear

AAM12C21A44	Electrolytically Deposited – Class I	AAMA 611	Champagne, Dark Bronze
	Organic Paint	AAMA 2603	As selected by Architect from manufacturer's standard colors - Suitable for INTERIOR Finishes
	Organic Paint	AAMA 2605	As selected by Architect from manufacturer's (Specify) standard or custom colors - suitable for INTERIOR or EXTERIOR finishes

PART 3 EXECUTION

3.01 EXAMINATION

- A. Site Verification of Conditions
 1. Verify that building substrates permit installation of entrances according to the manufacturer's instructions, approved shop drawings, calculations and contract documents.
 2. Do not install entrances until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Erection of Aluminum Framed Entrances
 1. Install entrances with skilled tradesman in exact accordance with approved shop drawings, installation instructions, specifications, and AAMA 101 and 101/I.S.-2.
 2. Entrances must be installed **plumb, square, and level** for proper weathering and operation.
 3. All joints between framing and the building structure shall be sealed in order to secure a water tight installation.
 4. Aluminum that is not organically coated shall be insulated from direct contact with steel, masonry, concrete, or dissimilar metals by bituminous paint, zinc chromate primer, non-conductive shims or other suitable insulating material.

3.03 PROTECTION AND CLEANING

- A. After completion of entrance installation, the General Contractor shall adequately protect exposed portions of aluminum surfaces from damage by grinding and polishing compounds, plaster, lime, acid, cement, or other contaminants. The General Contractor shall be responsible for the final cleaning. Manko Window Systems, Inc. recommends mild soap and water to clean the aluminum surface of the doors.

DISCLAIMER: Manko Window Systems, Inc. takes no responsibility for product selection or application, including, but not limited to, compliance with building codes, safety codes, laws, merchantability or fitness for a particular purpose; and further disclaims all liability for the use, in whole or in part, of these guide specifications in preparation of project specifications and/or other documents. Guide specifications are subject to change at any time, without notice, and at Manko Window Systems Inc.'s sole discretion.