

GUIDE SPECIFICATIONS - SECTION 084100

LaCantina ALUMINUM WOOD Folding Door System

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Aluminum, wood and glass folding door system with fingertip operation up to 52' wide and 10'4" tall, including aluminum and wood frame, aluminum threshold, aluminum exterior and wood interior panels, folding system and locking hardware, and weather stripping.
- B. Glass and glazing.
- C. [Optional] Horizontal, retractable, non-pleated insect and solar control screen and blind system up to 24' wide and 10' tall or
- D. [Optional] Horizontal, retractable pleated insect screen system up to 29'6" wide and 10' tall
- E. System designed to provide a folding door system, with sizes and configurations as per drawings and specified herein, with LaCantina Aluminum Wood Folding Door System as supplied by LACANTINA DOORS, INC.

1.02 RELATED SECTIONS

- A. Section 01 33 00 - Submittal Procedures.
- B. Section 01 60 00 - Product Requirements: Requirements for sustainably harvested wood and recycled content possibly affecting the products of this Section.
- C. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- D. Section 06 10 00 - Rough Carpentry: Installation and requirements for rough door opening.
- E. Section 06 20 00 - Finish Carpentry: Installation and requirements for door frame and casing and trim.
- F. Section 07 92 00 - Joint Sealers.
- G. Section 08 71 00 - Door Hardware.
- H. Section 09 90 00 - Glazing.
- I. Section 09 90 00 - Paints and Coatings: Field finishing of wood.

1.03 REFERENCES

- A. AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.
- B. AAMA 2604, Voluntary Specifications, Performance Requirements and Test Procedures for Pigmented for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- C. AAMA 1303.5, Voluntary Specifications for Forced Entry Resistant Aluminum Sliding Glass Doors.
- D. ANSI Z97.1, Safety Performance Specifications and Methods of Test for Safety Glazing Material Used In Buildings.
- E. ASTM E 283, Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- F. ASTM E 330, Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- G. ASTM E 547, Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
- H. CPSC 16CFR-1201, Safety Standard for Architectural Glazing Materials.
- I. NFRC 100, Procedure for Determining Fenestration Product Thermal Materials.
- J. NFRC 200, Procedure for Determining Solar Heat Gain Coefficient.

1.04 SUBMITTALS

- A. Detailed Order Documentation: Indicate outside net frame dimensioning, direction of swing (outswing or inswing), number of panels, folding configuration of panels left or right, identify main entry swing panel [if applicable based on configuration selected], typical head, side jamb, sill and panel details and type of glazing material per vertical, plan and elevation view drawings.
- B. Product Data: Manufacturer's literature including independently certified testing results, installation instructions, warranty and care and maintenance instructions.
- C. LEED Submittals:
 - 1. Submit applicable LEED Submittal Form for each different product made of sustainably harvested wood, as specified in Section 01 60 00.
 - 2. Submit VOC content, including added urea-formaldehyde resin, of each composite wood material used.
 - 3. Submit recycled content of each material containing such content.
 - 4. Submit thermal performance (i.e. U-value) for each door and glazing type.

1.05 QUALITY ASSURANCE

- A. Manufacturer: Provide complete, engineered and high quality folding door system by a single source manufacturer with at least 7 years experience manufacturing folding door systems in the U.S.
- B. Performance Requirements: Folding door system to comply with applicable manufacturer's independently certified testing results. Testing results include air infiltration in accordance with ASTM E 283, water penetration in accordance with ASTM E 547 and structural loading in accordance with ASTM E 330.
SPECIFIER NOTE: *Outswing system is recommended for weather exposed areas and best weather performance. Air infiltration and water penetration testing results can only be applicable if the door system matches the test door system in the direction of opening and the type of sill. Structural load testing results are only applicable for the test door system panel size with top and bottom locking points and type of mounting. (Comparative analysis by an engineer can determine which panel sizes (if any) would meet structural loading design pressures specifically required for the project. Check for limitations on the use of comparative analysis in the jurisdiction of the project. See manufacturer's latest published data.*
- C. Installer Qualifications: Installers experienced in the installation of manufacturer's folding door systems or similar and screening system preferred. Installer to follow installation instructions supplied by manufacturer and to provide warranty against defects in workmanship.

1.06 WARRANTY

- A. Provide manufacturer's standard limited warranty for defects in materials and workmanship.
- B. Warranty Period: Up to ten (10) years for panel and frame aluminum components, product finishes, folding system hardware, and weather stripping. Five (5) years for locking hardware and screens. One (1) year for wood components and anodized finishes. Ten (10) years for insulated glass against failure of the air seal and that each unit will be free from material obstruction of vision as a result of fogging or film formation on the internal surfaces. For product used outside of the United States, up to two (2) years on glass and components and then ten (10) years on folding system hardware. From date of shipment by manufacturer. Normal and regular maintenance is required per manufacturer's instructions to maintain the appearance and extend the finish life and maintain proper operation.

1.07 SITE CONDITIONS, DELIVERY, STORAGE AND HANDLING

- A. In addition to general delivery, storage and handling requirements specified in Section 016000, comply with the following:
 - 1. Deliver door system to job site in manufacturer's packaging. When forklift is not available remove panels from packaging and carefully transfer panels to a secure

jobsite area. Protect stored product from damage. Store product flat in dry, well ventilated area out of direct sunlight under cover, protected from weather and construction activities. Wood items must be finished within seven (7) days of jobsite delivery.

- B. Condition wood components to average prevailing relative humidity before installation.
- C. Do not expose wood components to extreme or rapid changes in heat or humidity

PART 2 - PRODUCTS

2.01 SUPPLIER

- A. LACANTINA DOORS, INC.
- B. 3817 Ocean Ranch Blvd. Suite 114, Oceanside, CA 92056
Telephone: (888) 221-0141
Fax: (760) 734-1591
Website: www.lacantinadoors.com
Email: info@lacantinadoors.com

2.02 MATERIALS

- A. Frame and Panels: From manufacturer's standard profiles, provide complete folding door system with all hardware and consisting of head, side jambs, threshold and aluminum wood panels with dimensions shown on drawings.
 - 1. Provide aluminum wood panels with standard one lite up to 39" wide and 120" tall [OR with simulated dividing lites (SDL) in pattern as shown on drawings with manufacturer's standard 1" SDL profile]. Panel thickness to be 2 1/4". Horizontal mullion in panel construction is not required.
 - 2. Provide standard 3-5/8" stile and rail profile.
 - 3. Type of Interior Wood: Vertical grain Douglas Fir, [OR Okoume mahogany][OR custom species from manufacturer] with matching solid wood glazing stops.
 - 4. Interior Wood Finish: Unfinished, ready for paint or stain.
 - 5. Frame: Extruded aluminum with exterior aluminum fascias and interior wood components. Side jambs to be 1 1/4" thick. Frame width to be 5 5/8" overall [OR optional 7 5/8" overall]. Head, jamb, and sill to be thermally broken.
 - 6. Exterior Aluminum Finish: Manufacturer's in-stock finishes [OR select from range of optional finishes available from manufacturer] [OR custom kynar, powdercoat or decoral finish]. See threshold finishes below.
- B. Glass: Provide manufacturer's standard insulated glass (3/4" overall). Glazing seal is silicone bedding on exterior surfaces and wood glazing stops on the interior of the panel. All glass to comply with safety glazing requirements of ANSI Z97.1 and CPSC 16CFR 1201.
 - 1. Low-E 272 (for standard sizes, argon filled).
 - 2. Custom low-E options including 240, 270, 272, 366, 181.
 - 3. Clear insulated.
 - 4. Tinted.
 - 5. Single glazed tempered.
 - 6. Laminated [OR Impact].
 - 7. [OR other glass available from manufacturer, including glass with other total thickness up to 1 1/4" overall].
- C. Locking Hardware and Handles: Provide manufacturer's standard handle and concealed two point locking hardware operated by 90 degree turn of handle between each pair of folding panels and on any secondary swing panel.
 - 1. On the main entry panel for configurations with a swing panel, provide manufacturer's standard trimset and lever handles on the inside and outside, a Schlage compatible lockset, multi-point locking with dead bolt and concealed

locking rods at the top and bottom of the door panel. Locking rods and mechanism shall not be edge or surface mounted. Depressing the handle withdraws the latch. Lifting the handle employs the rods and a turn of the key or thumb turn employs the deadbolt and operates lock.

SPECIFIER'S NOTE: Key operation from the inside may not meet egress requirements.

[OR for locking/handle operation from inside only (for even/even panel configurations or window applications where manufacturer's standard lever handle and lockset is not provided), on all swing panels or pair of folding panels to be opened first, provide manufacturer's standard handle and concealed two point locking hardware operated by 90 degree turn of handle.]

2. Concealed aluminum locking rods to be capped with solid stainless steel tips that lock into the frame's top and bottom locking channels.
 3. Handle Finish: Brushed satin [OR bronze].
 4. Provide main entry handle height centered at 36" [OR as specified] from bottom of panel.
- D. Folding Hardware: Provide manufacturer's standard folding hardware integrated with manufacturer's engineered thermally-broken head track, side jambs and threshold frame system. Weight of panels to be borne by the bottom of the track will not be allowed. Hardware system carrying capacity to be 220 lbs. per panel.
1. Hardware system to operate with an upper wheel carrier that rolls on the aluminum head track. A lower track incorporated into the threshold to guide the door panels. Upper carrier and lower guide are attached to door panel hinges. Jamb panels are attached with top and bottom pivots. Panels are connected with hinges including top and bottom hinges attached to top carrier and lower guide. Handles to assist with opening and close of door included. Carrier pins at the top pivots, intermediate and end carrier support the full door weight and this is where panels are adjusted. A pin locking system is used to lock vertical adjustment once heights are set. Pivots at the jamb allow simple screwdriver adjustment of the system horizontally up to 3/8" (10 mm). All screws fully concealed for external security. Architectural grade stainless steel used for hinge pins, carrier pins and carrier bogeys.
 2. Hardware sets: Provide three (3) hinges on panels 96" or less and four (4) hinges on panels taller than 96". Optional wall pivots available for jamb side pivot panels for taller doors or high-wind environments.
 3. Hardware finish: Stainless steel [OR bronze].
 4. Threshold: Provide bronze anodized, [OR clear anodized] standard engineered weeping thermally-broken threshold (reversible outswing or inswing) [OR Zero Step Sill] [OR Commercial ADA Ramp Sill] [OR guide track only for interior applications].

SPECIFIER'S NOTE: Standard outswing engineered threshold can be recessed to level out the top of the threshold's weather stop with the interior finish flooring to minimize transition from interior to exterior floor levels while maintaining best weather performance. Outside patio/floor level shall be lower than the bottom of the threshold to allow water to weep to the exterior. The Zero Step Sill is manufacturer's solution for applications with same finish floor levels inside and outside. The Zero Step Sill incorporates a Draftguard Seal for effective sealing of the bottom of the panels without typical maintenance and sealing problems associated with sweeps mounted under door panels. The Zero Step Sill is installed with channels below exterior floor level and is recommended for protected openings and requires a drainage system (by others) to be installed to remove any water from the floor channels. The Draftguard Seal requires manual operation. See manufacturer's drawings. The ADA Ramp Sill MUST comply with the America Disability Acts (ADA) code #1142B and all horizontal channels in threshold or floor must be no more than 1/2".

5. Adjustment: Provide system capable of adjustments without removing panels from tracks, 3/8 (10 mm) both vertically and horizontally with flat head and Phillips head screwdriver.
 6. Gaps between folding panels that accommodate weatherstripping and hinges to be 3/16" (5mm) or less when panels are closed.
- E. [Optional] Screen and Blind: Provide horizontal, retractable, non-pleated insect and solar control screen and blind system up to 24' wide and 10' tall with fingertip operation, load-balancing and tensioning adjustment, with anodized finish in manufacturer's standard color [OR alternative custom color] [OR alternative wood veneer from manufacturer's selection]. Screen mechanism to be concealed within frame and integrated with installation of door system [OR as stand-alone unit]. From manufacturer's standard profiles, provide head jamb, side jambs and threshold with dimensions and screen function direction. Operation to be single function up to 12' wide [OR double function up to 24'wide] [OR multi-function screen and blind system up to 24' wide and 7'6" tall]. Screen Mesh: Provide fiberglass/PVC mesh from manufacturer's available selection for insect protection, control heat gain or loss, UV protection or projector screen.
- F. [Optional] Retractable Pleated Insect Screen system up to 29'6" wide and 10' tall with aluminum frame that integrates with installation folding door frame, in manufacturer's standard color [OR alternative custom color]. Pleated mesh expands when screen is closed and compacts against the jamb when fully open. From manufacturer's standard profiles, provide head jamb, side jambs and threshold with dimensions and screen function direction. Operation to be single function up to 14'10" wide [OR double function up to 29'6" wide]. Screen mesh: Provide European Polyester mesh from manufacturer's available selection for insect protection.
- G. Other Components:
1. Weather stripping: Provide manufacturer's standard qlon seals at the inner and outer edge of door panels or on frame for sealing between panels and between panel and frame.
 2. Provide screws for connecting panels and frame components.
 3. Provide magnetic door stop for main entry swing panel and for stacking of folding panels.

2.03 FABRICATION

- A. Use extruded aluminum exterior profiles and fitted interior wood components, hinges and folding hardware, locking hardware and handles, threshold and track, glass and weather stripping as specified herein to make a folding door system. Factory pre-assembled as is standard for manufacturer and will ship with all components and installation instructions.
- B. Sizes and Configurations: See drawings for selected custom dimensions within maximum frame sizes possible as shown in manufacturer's literature. See drawings for selected number of panels and configuration.
- C. Swing/stacking direction: Outswing [OR inswing] opening unit.
- D. Provide 90 degree zero post corner configurations as per drawings provided.
- E. Define as window system for net frame heights 72" or less.

2.04 ACCESSORIES

- A. Provide manufacturer's standard 2" interior wood frame jamb extensions.
- B. Provide manufacturer's non-integral nail fin utilized in conjunction with standard flashing, weather resistant barriers (house wrap) and compatible sealants.

PART 3 - EXECUTION

3.01 ERECTION

- A. Due to the size, weight and movement of the panels, verify the structural header requirements. Specifically, the maximum deflection of the header with the live load shall not exceed the lesser of **L/720** of the span and **1/4"**. Structural support for lateral loads (both wind load and when the panels are stacked open) must be provided.
- B. Verify that dimensions of rough opening will fit net frame dimensions of door system; verify that rough opening is level, plumb and square, with no unevenness in floor.
- C. Installation of folding door system constitutes acceptance of existing conditions.

3.02 INSTALLATION

- A. Install the door system frame and panels in accordance with manufacturer's installation instructions. Properly flash and waterproof around the perimeter of the opening and frame. Adequate overhangs to prevent the effects of sheeting water from above are recommended.
- B. Installer to provide adequate anchorage devices and to securely fit frame in place, absolutely level, straight, plumb and square. Install frame in proper elevation, plane and location, and in proper alignment with other work. Head section of frame must be installed with a 1/8" upward crown at the center of the opening.
- C. If necessary for tracks recessed into finish floors, drill weep holes in the floor track and provide drain connectors to ensure water can escape from the tracks. Recessing tracks into the floor are not recommended for areas exposed to weather.
- D. Ensure doors are adjusted at time of installation for proper operation.
- E. Protect installed product from construction activities, particularly thresholds and floor channels.
- F. Finishing: Field finish under Section 099000 - Painting; seal and finish promptly after installation (no more than seven (7) days) and prior to exposure to weather.
- G. Accessories: Install the screen system following the manufacturer's recommendations and installation instructions.

END OF SECTION