

GUIDE SPECIFICATIONS - SECTION 084100

LaCantina ALUMINUM WOOD Series - Standard Framed Folding System

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Engineered folding wood, aluminum, and glass door system with fingertip operation up to 52'- 0" wide and 10'- 4" tall, including aluminum and wood frame, threshold, aluminum and wood panels, folding 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'- 0" wide and 10'- 0" tall with fingertip operation and load-balancing.
- D. System designed to provide an operable glass wall and door system, with sizes and configurations as shown on drawings and specified herein, with LaCantina Aluminum Wood Framed Folding 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 and folding, configuration of panels left or right, main entry swing panel [if applicable based on configuration selected], typical head jamb, side jambs and sill details and type of glazing material.

- B. Product Data: Manufacturer's literature including independently tested data listing performance criteria and Installation Instructions with warranty and care and maintenance instructions..
- C. Contract Closeout Submittal: Submit Owner's Manual from manufacturer. Identify with project name, location and completion date, type and size of unit installed.
- D. 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, precision built, engineered, pre-fitted unit by a single source manufacturer with at least 15 years experience in providing folding door systems for large openings and at least 7 years experience manufacturing in the North American market.
- B. Performance Requirements: Unit 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 unit matches the test unit in the direction of opening and the type of sill. Structural load testing results are only applicable for the test unit size with top and bottom reinforced locking points and type of mounting. (Comparative analysis by 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: Installer experienced in the installation of manufacturer's products or other similar products for large openings preferred. Installer to follow Installation Instructions supplied by manufacturer.

1.06 WARRANTY

- A. Provide manufacturer's standard warranty against 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. 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. From date of shipment by manufacturer. Normal and regular maintenance is required 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 materials to job site in manufacturer's packaging. When forklift is not available remove panels from packaging and carefully transfer panels to 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 subject wood components to extreme nor rapid changes in heat or humidity
 - D. Do not use forced heat to dry out building.

PART 2 - PRODUCTS

2.01 SUPPLIER

- A. LACANTINA DOORS, INC.
3270 Corporate View, Suite D, Vista, CA 92081
Toll Free: (888) 221-0141
Telephone: (760) 734-1590
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 head jamb, 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 is 2-1/4". Horizontal mullion is not required.
 - 2. Provide standard 3-5/8" stile and rail profile.
 - 3. Type of Interior Wood: Vertical grain Douglas Fir, or Akoume Mahogany, [OR custom FSC Certified Douglas Fir] [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. Jambs are 1-1/4" thick. Frame width 5-5/8". Head, jamb, and sill to be thermally broken.
 - 6. Exterior Aluminum Finish: Bronze paint [OR white paint] [OR select from range of finishes available from manufacturer] [OR custom kynar or powdercoat finish]. See threshold finish, below.
- B. Glass: Provide manufacturer's standard 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 (standard argon filled).
 - 2. Low-E options 240, 270, 366, I81.
 - 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 flat 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 lever handles on the inside and outside, a Schlage compatible lock set with lockable latch, multi-point locking with dead bolt and locking rods at the top and bottom. Rods to be concealed and not edge

mounted. Depression of handle withdraws latch. Lifting of handle engages rods and turn of key or thumb turn engages 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 flat 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: Stainless steel [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 176lbs 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 threshold (reversible outswing or inswing) [OR Zero Step Sill] [OR ADA 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 should be lower than the bottom of the threshold. 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. See manufacturer's drawings.
 5. Adjustment: Provide system capable of specified amount 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 [OR double function] [OR multi-function screen and blind system]. Screen Mesh: Provide fiberglass/PVC mesh from manufacturer's available selection for insect protection, control heat gain or loss, UV protection or projector screen. Pleated screen will not be allowed.

F. 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. Color: Dark bronze.
2. Provide screws for connecting panels and frame components.
3. Provide magnetic door stop for main entry swing panel.

2.03 FABRICATION

- A. Use solid 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 glass wall and door system. Factory pre-assemble as is standard for manufacturer and ship with all components and installation instructions.
- B. Sizes and Configurations: See drawings for selected custom dimensions within maximum frame sizes possible as indicated 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.

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 large dimensions, weight, and movement of the panels, verify the structural integrity of the header such that the maximum deflection with the live load is limited to be the lesser of **L/720** of the span and **1/4"**. Structural support for lateral loads (both windload and when the panels are stacked open) must be provided.
- B. Examine surfaces of openings and verify dimensions; verify rough openings are level, plumb, and square, with no unevenness, bowing, or bumps on floor.
- C. Installation of system constitutes acceptance of existing conditions.

3.02 INSTALLATION

- A. Install frame in accordance with manufacturer's recommendations and 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 appropriate anchorage devices and to securely and rigidly 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. Install head section of frame with a 1/8" upward crown at the center of the opening.
- C. If necessary, provide drain connections from lower track.

- D. Install panels, handles and lock set in accordance with manufacturer's recommendations and installation instructions.
- E. Adjust hardware for proper operation.
- F. Protect installed product from construction activities.
- G. Finishing: Field finish under Section 099000 - Painting; seal and finish promptly after installation and prior to exposure to weather in accordance with manufacturer recommendations.
- H. Accessories: Install in accordance with screen system manufacturer's recommendations and installation instructions.

END OF SECTION