

SECTION 08260

SLIDING PATIO DOORS



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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Vinyl sliding patio doors (Sanford Hills).

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Door blocking and framing as indicated.
- B. Section 06200 - Finish Carpentry: Wood trim other than furnished by manufacturer.
- C. Section 07900 - Joint Sealants: Sealant and perimeter caulking.
- D. Section 09900 - Paints and Coatings: Paint or stain other than factory applied finish.

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM E 283 - Test method for rate of Air Leakage through Exterior windows, Curtain walls and doors.
 - 2. ASTM E 330 - Test method for Structural Performance of Exterior Windows, Curtain walls and doors.
 - 3. ASTM E 547 - Test method for Water Penetration of Exterior windows, Curtain walls and doors by Uniform Static Air Pressure Difference.
 - 4. ASTM E 2190 – Standard Specification for Insulating Glass Unit Performance and Evaluation
- B. National Fenestration Rating Council (NFRC): 100; Procedure for Determining Fenestration Product Thermal Properties, U-Factors.
- C. National Fenestration Rating Council (NFRC): 200; Procedure for Determining Fenestration Product Thermal Properties, Solar Heat Gain Coefficient.
- D. AAMA/WDMA/CSA 101/I.S.2/ A440-17 – North American Fenestration Standard/Specification for windows, doors and skylights
- E. American Architectural Manufacturers Association:
 - 1. AAMA 603.8: Pigmented Organic Coating on Extruded Aluminum.
 - 2. AAMA 303: Voluntary Specification for Poly (Vinyl Chloride) (PVC) Exterior Profiles.

1.4 PERFORMANCE REQUIREMENTS

- A. Test for air infiltration shall be in accordance with AAMA 101/I.S.2-17. On a test the air rate shall not be greater than 0.3 cfm per square foot of sash area.
 - 1. Patio door units shall be tested and certified for performance with the above referenced test methods.
- B. Test for water infiltration shall be in accordance with AAMA/NWWDA 101/I.S.2.
- C. Test results for different patio door sizes are available.
- D. Test for SGD 71.5 X 82 PG50
- E. Test for thermal performance shall be in accordance with NFRC 100, or latest NFRC standard.
- F. Test for thermal performance shall be in accordance with NFRC 200, or latest NFRC standard.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 0.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Hardware, frame finish and glass construction.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods.
- C. Shop Drawings: Provide detailed dimensioned elevations of each door type.
- D. Quality Control Submittals: Submit manufacturer's certifications indicating compliance with specified performance and design requirements.
- E. Certified Test Reports: Submit for air infiltration, water resistance, and uniform loading in accordance with the above referenced specification.
- F. Catalog Data: Shall describe each type of door, hardware, fastener, accessory, operator, screen, and finish.
- G. Certification of Compliance: Submit certificates that equivalent doors have been successfully tested and meet the requirements specified herein for air infiltration and water penetration.
- H. Certification: Patio door units shall be tested and certified for performance with the above referenced test methods. All units shall be labeled certifying conformance with NFRC 100 and NFRC 200.
- I. Selection Samples:
 - 1. Submit corner section.
 - 2. Include glazing system, quality of construction, and specified finish.
- J. Verification Samples:
 - 1. Submit corner section representing actual product, color, and model.
 - 2. Include glazing system, quality of construction, and specified finish.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Regularly engaged in manufacturing patio doors, and capable of providing field service representation during construction, approving acceptable installer and approving application method.
- B. Installer Qualifications: Minimum two (2) years experience installing similar products.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sliding patio doors to project site in an undamaged condition. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store doors and components out of contact with the ground, under cover, protected from the weather, so as to prevent damage to the doors.
- C. Protect units during shipment and handling using the manufacturer's standard method. Each door assembly shall be packaged individually with appropriate bracing to prevent damage to nail fins and with handles to facilitate moving the door easily.
- D. Sliding patio doors unit shall be strapped at the factory. The screen and hardware will be packaged and shipped with the door assembly.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Sliding patio doors shall be fully warranted against defects in material or workmanship under the normal use and service for a period of 20 years; 5 years factory labor included.
- B. PVC finish shall be warranted against chipping, peeling, cracking, or blistering for a period of 20 years from the date of acceptance.
- C. Insulating glass units shall be fully warranted against visual obstruction resulting from film formation or moisture collection between the glass surfaces, excluding breakage, for a period of 20 years; 5 years factory labor included.
- D. Contractor shall provide a written service warranty that clearly spells out how requests shall be handled, by whom, under whose responsibility and shall include the time frame for handling these service requests. A copy of the product and labor warranty must accompany other applicable warranties and be presented with the bid.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Mathews Brothers Company, 22 Perkins Rd, Belfast, ME 04915.
Toll free: (800) 615-2004 | Tel: (207) 338-6490 | Fax: (207) 338-6300
Email: info@mathewsbrothers.com | Web: http://www.mathewsbrothers.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SANFORD HILLS VINYL SLIDING PATIO DOORS

- A. Vinyl Sliding Patio Doors: As manufactured by Mathews Brothers Company.
 - 1. Sizes and Locations: As indicated on drawings.
- B. Extruded Components: Produced from commercial quality virgin powder dry blend PVC (unplasticised polyvinyl chloride) from sections in one piece, straight, true and smooth; conforms to AAMA 303.
- C. Extruded Frames: Multichambered PVC extruded frames and sash.
- D. Frame Joints: Fusion-welded frame joints strong enough to develop full strength of members.
- E. Integral Interlocks: Meeting rails between the stationary and operating panels to have integral interlocks.
- F. Frames: Integral nail fin extruded as part of frame.
- G. Patio Door System: One (1) operating and one (1) stationary panel, fabricated such that each can be easily removed from the frame after the door assembly has been installed.
- H. Patio Door Panels: Galvanized steel reinforcement running the full height of the lock stile and interlocking stiles.
- I. Channel Pocket: Recessed, integral 7/8 inch (22 mm), dual wall J-channel pocket.
- J. Frame Color:
 - 1. Frame Color: White, standard.
 - 2. Frame Color: Adobe
 - 3. Frame Color: As indicated on the drawings.
- K. Exterior Painted Colors:
 - 1. Exterior Painted Colors: Pearl White.
 - 2. Exterior Painted Colors: Adobe.
 - 3. Exterior Painted Colors: Gray.
 - 4. Exterior Painted Colors: Spruce Green.
 - 5. Exterior Painted Colors: Black.
 - 6. Exterior Painted Colors: Bronze.
 - 7. Exterior Painted Colors: Cream White.
 - 8. Exterior Painted Colors: Earth Brown.
 - 9. Exterior Painted Colors: Barn Red.
 - 10. Exterior Painted Colors: As indicated on the drawings.

11. Exterior Painted Colors: As selected by architect from manufacturer's full range of exterior painting options.
- L. Glazing: 7/8 inch nominal thickness insulating glass units secured to sash frame using dual adhesion closed cell foam fenestration glazing tape, vinyl glazing bead, and Duralite® composite spacer, with the glass/glazing option below.
1. Glass Type: Tempered Clear
 2. Glass Type: Tempered Low-E
 3. Glass Type: Tempered Low-E with Argon Gas
 4. Glass Type: As indicated on the drawings.
 5. Glass Type: As selected by architect from manufacturer's full range of glazing options.
- M. Accessories:
1. Exterior Casing: None, standard.
 2. Exterior Casing: Applied 3-1/2 inches by 1-1/4 inches (89 mm by 32 mm).
 3. Exterior Casing: Applied 2 inches by 1-1/16 inches (51 mm by 27 mm), Brickmould 908.
 4. Exterior Casing: Applied Banded Casing.
 5. Drywall Returns: Standard, none.
 6. Drywall Returns: Applied, 1/2-5/8 inch (13-16 mm).
 7. Drywall Returns: Applied, 3/4 inch (19 mm).

2.3 FABRICATION

- A. Weathering Surfaces: All frame members shall be multichambered PVC extrusions utilizing double wall design without the need for reinforcement. Frame corners shall be fusion-welded. Panel members shall be multichambered PVC extrusions utilizing double wall design at all glazing locations.
- B. Adjustments: Two (2) adjustments shall be provided to change the height of the door panels above the rollers to ensure squareness with the frame and four (4) adjustments shall be provided, two (2) at the top and two (2) at the bottom to adjust the fit of the screen. Rollers for the sliding door panels shall be stainless steel tandem rollers.
- C. Drip and Weep Holes: Provided as required to return water to the outside.
- D. Glazing:
1. Glazing Thickness: Design glazed sliding patio doors with rabbets suitable for glass thickness specified above.
 2. Thermopane, double-glazed, Low-E, insulating glass.
 3. Insulating space filled with argon.
- E. Fasteners:
1. All fasteners are to be stainless steel type, corrosion resistant.
 2. Use flathead, cross-recessed type, exposed head screws with standard threads on doors, trim and accessories.
 3. Screw heads shall finish flush with adjoining surfaces.
 4. Self-tapping sheet metal screws are not acceptable for material more than 1/16-inch in thickness.
 5. All sheet metal screw fasteners shall penetrate into a screw boss consisting of at least three layers of PVC profile for secure fastening and reduce pull out.
- F. Provisions for Glazing: Design sash for outside double-glazing and for securing glass with manufacturers' standard glazing accessories.

- G. Accessories: Provide sliding patio doors complete with necessary hardware, fastenings, clips, integral fins, anchors, glazing beads, and other accessories necessary for complete installation and proper operation.
- H. Weatherstripping: Provide for ventilating sections of all sliding patio doors to ensure a weathertight seal meeting the infiltration tests specified herein. Use easily replaceable factory applied weatherstripping of manufacturers' stock type, as specified above. For sliding surfaces, use silicone treated pile, bonded to a plastic-backing strip.
- I. Screens: Provide one insect screen for each operable unit. Design screens to fit closely around the entire perimeter of each opening, to be easily rewired, easily removable, and interchangeable for same size patio doors with no exposed fasteners. Provide all guides, stops, clips, bolts, and screws as necessary, for proper operation. Provide continuous extruded aluminum screen frame for screen strength. Aluminum wire shall be provided when stipulated.
- J. Screen Frames: Provide same quality and color finish as the patio door units. Frames shall have aluminum sections not less than 2 inches by .500 inches (51 mm by 12.7 mm) thick and shall have removable vinyl splines. Hardware, attachment devices, and accessories shall have the manufacturers' standard and of same quality, material and finish as hardware of patio door unit.
- K. Screening: Install screening with weave parallel to frame and stretch sufficiently to present a smooth appearance. Conceal edges of screening in the spline channel.
- L. Finish: Exposed surfaces of aluminum extrusions shall be thoroughly cleaned, primed and given a baked enamel finish in accordance with AAMA 603.8 with the total dry thickness not less than 0.8 mil.
- M. Provide manufacturer's standard, factory installed hardware including but not limited to operating hardware, anchors and attachments.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared. Before installation, verify openings are plumb, square, and of proper dimension as required by manufacturer for installation.
- B. If rough opening preparation is the responsibility of another installer, notify architect of unsatisfactory preparation before proceeding.
- C. Acceptance of Conditions: Beginning of installation constitutes acceptance of existing conditions.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in strict accordance with the manufacturer's printed instructions and details, except as specified otherwise herein.
- B. Install sliding patio doors without force into prepared rough openings.
- C. Insulate perimeter of door frame with acceptable approved insulation material, as recommended by window manufacturer.
- D. Set doors at proper elevation, location, and reveal; plumb, square, level, and in alignment; and brace, strut, and stay properly to prevent distortion and misalignment.
- E. Protect operating parts against accumulation of dirt, and building materials by keeping operating panel tightly closed and locked to frame.
- F. Bed screws in an approved sealant.
- G. Install doors in a manner that will prevent entrance of water.
- H. Provide sill pan flashing for weathertightness.
- I. Assemble and install door unit according to manufacturer's instructions and reviewed shop drawings.
- J. Install sealant and related backing materials at perimeter of unit or assembly in accordance with manufacturer's recommendations. Do not use expansive foam sealant.
- K. Install accessory items as required.

3.4 TESTING AND ADJUSTING

- A. After installation of patio doors adjust all hardware to operate smoothly and to provide weathertight sealing when operating panels are closed and locked.
- B. Lubricate hardware and operating parts as necessary.
- C. Replace with new doors all stained, discolored, or abraded doors that can not be restored to their original condition.

3.5 CLEANING

- A. Clean interior and exterior of units of mortar, plaster, paint splattering spots, sealants, and other foreign matter to prevent a neat clean appearance and to prevent fouling of weatherstripping surfaces and weatherstripping, and to prevent interference with the operation of the hardware.
- B. Remove visible labels and adhesive residue from glass according to manufacture's instructions.
- C. Leave frames and glazing in a clean condition.

3.6 PROTECTION

- A. Where surfaces are in contact with, or fastened to wood or dissimilar materials as recommended by the manufacturer. Surfaces in contact with sealant after installation shall not be coated with any type of protective material.

- B. Protect doors and installed products from damage by chemicals, solvents, paint, or other construction operations that may cause damage. Protect windows and installed products until completion of project.
- C. Touch-up, repair or replace damaged, stained, discolored, or abraded doors before Substantial Completion.

END OF SECTION