

SERIES 8000 SPECIFICATION GUIDE

HEAVY COMMERCIAL WIDE STILE SLIDING GLASS DOORS

For impact glazing applications

SECTION 08640

PART 1 – GENERAL

1.01 SECTION INCLUDES:

- A. Material: Aluminum architectural sliding glass doors as shown on the drawings and specified in this section.
- B. Installation: Labor, tools, and materials needed to install doors complete with hardware and related components.
- C. Glass and glazing.

1.02 PRODUCTS FURNISHED BUT NOT INSTALLED:

[enter description]

1.03 PRODUCTS INSTALLED BUT NOT FURNISHED:

[enter description]

1.04 RELATED SECTIONS:

- A. Section 07900 – Sealants

1.05 REFERENCES:

- A. AAMA – American Architectural Manufacturers Association.
 - 1. AAMA/NWWDA 101/1.S.2-97 "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows."
 - 2. AAMA 502-90 "Voluntary Specifications for Field Testing of Windows and Sliding Glass Doors."
 - 3. AAMA 611-98 "Voluntary Specifications for Anodized Architectural Aluminum."
 - 4. AAMA 701-92 "Voluntary Specifications for Pile Weatherstripping."
 - 5. AAMA 800-92 "Voluntary Specifications and Test Methods for Sealants."
 - 6. AAMA 906-96 "Voluntary Specifications for Sliding Glass Door Roller Assemblies."
 - 7. AAMA 2603-98 "Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions & Panels."
 - 8. AAMA 2604-98 "Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions & Panels."
 - 9. AAMA 2605-98 "Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions & Panels."
 - 10. AAMA CW-10-97 "Care & Handling of Architectural Aluminum from Shop to Site."
 - 11. AAMA/NWWDA 1303.5 Forced Entry
- B. ASTM – American Society for Testing Materials:
 - 1. ASTM E 283 "Standard Test Method for Rate of Air Leakage Through Exterior Windows Curtains Walls, and Doors."
 - 2. ASTM E 330 "Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."
 - 3. ASTM E 331 "Standard Test Method for Water Penetration for Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."

4. ASTM E 547 "Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential."
 5. ASTM E 774 "Specification for Sealed Insulated Glass Units."
 6. ASTM E 987 "Standard Test Method for Deglazing of Exterior Windows, Curtain Walls, and Doors."
 7. ASTM E 1300 Standard practice for determining Glass Loads
 8. ASTM E 1886 02 Standard Test method for Cyclic Pressure Differentials
 9. ASTM E 1996 02 Standard Test method for Windows and Doors impacted by windborne debris.
- C. Miami Dade Protocol for Hurricane Windborne Debris Impact Testing, including;
1. TAS 201 Large and Small Missile Impact Tests.
 2. TAS 202 Air infiltration, Water infiltration and Static Air pressure Tests
 3. TAS 203 Positive and Negative Loads, Cycle Tests.

1.06 SYSTEMS DESCRIPTION:

- A. AAMA DESIGNATION: SGD-HC
Height Rating, from 6' 8" to 10' 0". HC performance with Design Pressures from 150 psf to 60 psf. Job specific sizes are called out on the drawings and the Design Pressures have been provided by the Engineer of Record. The SGD manufacturer must provide certification that they are in compliance with the DP's required for this project.
- B. Doors: Aluminum extrusions 6063-T6 alloy and temper, minimum wall thickness .080". Frame depth 6", flush frame. Panels to have 4-5/8" wide vertical stiles, top and bottom rail. Optional 8-5/8" high bottom rail available. panel depth to be 1-3/4" factory glazed.
- D. Configurations: Sliding glass doors: Two Panel two track systems, up to eight panel four track Systems. Job specific configurations are called out on the drawings..
- E. Glazing: Panels are wet glazed with extruded aluminum stops with vinyl cushioning seal. Glazing bite is 1". Glazing stops accept from 9/16" single glazing to 1" insulated glass, see glass description in paragraph 2.04.

1.07 PERFORMANCE REQUIREMENTS:

- A. Conformance to SGD-HC specifications in AAMA/NWWDA 101/I.S.2-97 when tests are performed on the prescribed minimum 4'10" panel width x 7'10" panel height. Additional tests for compliance with "largest size manufactured," must show nominal test size panels up to 4ft. wide by 10ft. high. Frame width and height test sizes are listed below, under this section, item #5, with their specific results:
1. Air infiltration maximum allowable at .34 cfm/square foot when tested per ASTM E 239-91 at a static air pressure difference of 6.24 psf., equal to wind at 50 mph.
 2. Air infiltration measured on independent laboratory tests of WinDoor SGD at 6.24 psf for specimen #1 are 0.03 and specimen #2 are 0.06, testing under Miami Dade protocol TAS 202-94. This project will require laboratory certified test reports showing air infiltration performance at .15 or lower.
 3. Water penetration: No uncontrolled water leakage when tested per ASTM E 547-93 and ASTM E 331-93 at a static air pressure of: 15% of the positive DP.
 4. Riser Height 1.50" = 5.5psf field performance and 6.75psf lab test.
Riser Height 2.25" = 7.5psf field performance and 9.psf lab test.
Riser Height 3.0" = 10.5psf field performance and 12.psf lab test.

Riser Height 3.50" = 12.5.psf field performance and 15.psf in lab tests.

Riser Height 4.25" = 16.psf field performance and 18.75psf lab test.

5. Uniform Structural Load: No glass breakage, permanent damage to fasteners or hardware, or any other damage which would cause the door to be inoperable, and tested per ASTM E 330-90 at a static air pressure difference of :
 - Panel Size: 2'6" x 6'8" +180 psf w/ DP of +120 and -225 psf w/ DP of -150
 - Panel Size: 3' x 6'8" +180 psf w/ DP of +120 and -225 psf w/ DP of -150
 - Panel Size: 3'6" x 7' +180 psf w/ DP of +120 and -225 psf w/ DP of -150
 - Panel Size: 4' x 8' +137 psf w/ DP of + 91 and -171 psf w/ DP of -114
 - Panel Size: 4' x 10' +120 psf w/ DP of + 80 and -150 psf w/ DP of -100
 - Panel Size: 5' x 8' +150 psf w/ DP of +100 and -150 psf w/ DP of -100
6. The panel sizes listed above are for reference only in determining the DP's that are available. Job specific design pressures are provided on the drawings for this project and are the responsibility of the Engineer of Record. Manufacturers providing products for this project must provide certified test reports showing compliance with the structural requirements.
7. Comparative Analysis is permitted to the extent that cycle testing supports the data.

1.08 SUBMITTALS:

- A. Shop drawings: Door location chart; typical sliding glass door elevations; detail of assemblies; hardware; and glazing details for factory glazed panels. [job specific engineering as required].
- B. Product data: Manufacturers specifications and test reports from an AAMA-accredited laboratory.
- C. Samples: Specified finish for aluminum and other samples as requested.

1.09 QUALITY ASSURANCE:

- A. All sliding glass doors shall be Series 8000 as manufactured by WinDoor, Inc., 7500 Amsterdam Drive, Orlando, Florida 32832, Tel: 407.481.8400, Fax: 407.481.0505, or approved equal.
- B. Other manufactures desiring approval shall furnish a sample door representing the bid door for approval up to ten days prior to bid opening. Submit valid test reports from an AAMA-accredited laboratory conforming to the test results indicated in section 1.07.
- C. Acceptance will be by written addendum only, as verbal approvals will not be allowed.
- D. Submit bid on pre-qualified products. Bidder must identify manufacturer and model of product on which the bid is based.
- E. Manufacturer's Warranties:
 1. Doors: Warrant for three (3) year against defects in materials or workmanship under normal use.
 2. Insulating Glass Units: Warrant seal for five (5) years against visual obstruction from film formation or moisture collection between glass surfaces, excluding that caused by glass breakage or abuse.
 3. Laminated Glass: Warrant laminate sandwich for five (5) years against discoloration from delaminating due to attack by moisture or chemicals.

4. Paint finish: Electro static paint finish meeting AAMA 2603, 2604 and 2605, Shall be warranted respectively for 5, 10 and 15 years. For coastal project locations the paint finish shall be warranted respectively for 1, 5 and 10 years. Finishes as provided by PPG Ind. Duracron, Acrynar and Duranar in std. white or bronze or any custom color to be selected by architect. Warranties against chip, crack, check, peel, chalk, or fade for the period specified above.

PART 2 – PRODUCTS

2.01 MANUFACTURES:

- A. WinDoor Series 8000 Wide Stile Aluminum Sliding Glass Door
- B. Other acceptable manufacturers
(enter names as selected)

2.02 MATERIALS:

- A. Aluminum Extrusions: 6063-T6 alloy and temper with minimum wall thickness of .080" at frame and panel members, trim (covers) .062".
- B. Trim – Head and Jamb: Snap in covers shall conceal all anchor fasteners.
- C. Operating panel hardware: Two stainless steel tandem wheel housings conforming to AAMA 906-96: Each housing contains two adjustable 1-5/8" Delrin wheels. Dual point adjustable mortise lock with interior latch lever. Powder coated, white, interior and exterior pull handles. The handles shall allow for a hand to grab and control the door. Finger pull slots will not be allowed on the glazed panels.
- D. Weatherstripping: Dual rows of finseal weatherstripping secured in extruded ports concealed in panel perimeters conforming to AAMA 701-92.
- E. Screens: Exterior mount extruded hollow aluminum sections with depth of 1-1/4" x 2-5/8" wide. Two stainless steel wheel housings, each housing containing one adjustable 1-5/8" Delron wheel.

2.03 FABRICATION:

- A. Frame: Head and sill field fastened to jambs with stainless steel screws (two per corner). Sill to jamb corners field sealed.
- B. Sill protection: Clear anodized sill pan, sill insert, and riser (Note; riser may be omitted to facilitate ADA requirements).
- C. Water control: Sill to be two piece tank design, all sill anchor fasteners to be concealed in the tank with the proper application of sealant on the fastener heads. Weep slots and drain slots allow water to drain by gravity and resist wind-driven water (see sill designs and drawings).
- D. Panels: Vertical panel stiles coped and fastened to horizontal panel rails with a telescopic design joint secured with two stainless steel screws per panel corner.
- E. **Note Well:** For integrity of design, products employing the flying buttress design (a tube or I beam) will not be acceptable. Further, Internal steel reinforcement will not be allowed so that future oxidation (rusting) will not take place. Except for handles, all panel parts and screen parts must not extend inward or outward past the master frame depth.

2.04 GLAZING:

- A. The drawings shall indicate the specific glazing for this project. Listed below are some of the available systems that meet the Impact Glazing Codes.

1. Single glazed 9/16 inch laminated, clear or tinted, to meet large and /or small missile impact requirements.(may be heat strengthened, tempered or annealed)
 2. If Turtle Code requirements must be met, the gray tinted glass shall block 44% of the visible light transmittance.
 3. 1 inch insulated glass meeting IGCC-CBA rating. As indicated by the drawings, the Small Missile glazing shall comprise an exterior lite of clear or tinted, 7/16 inch tempered laminated glass and an interior lite of 3/16 inch clear tempered glass.
 4. 1 inch insulated glass meeting IGCC-CBA rating. As indicated by the drawings, the Large Missile glazing shall comprise an exterior lite of clear or tinted, 3/16 inch tempered glass and an interior lite of 7/16 tempered laminated glass.
- B. Performance:
1. Seal durability: conformance to ASTM E 774.92
 2. Meets IGCC-CBA rating

2.05 FINISH ON ALUMINUM EXTRUSIONS:

- A. Application: On clean extrusions free from serious surface blemishes on exposed surfaces visible when installed product's operating vents are closed.
- B. Coating: Select From; PPG Duracron, AAMA 2603, in std. white or bronze or any custom color selected by the architect. Or...
- C. Alternate, high performance finishes, PPG Acrynar AAMA 2604 or PPG Duranar, AAMA 2605 with 70% Kynar (flouropolymers) in standard white or bronze or any custom color selected by the architect.

PART 3 – EXECUTION

3.01 PREPERATION

- A. Prepare openings to be in tolerance, plumb, level, provide for secure anchoring, and in accordance with approved shop drawings.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's recommendations and approved shop drawings with skilled craftsmen who have demonstrated a successful history of installing doors for more than four years.
- B. Provide required support and security fasteners and set door frames plumb, square, and level without twist or bow.
- C. Apply sealant per specifications and sealant manufacturer's recommendations, wipe off excess and leave exposed sealant clean and smooth.

3.03 FIELD TESTING

- A. Test installed units in conformance with AAMA 502-90 for air and water infiltration with door manufacturer, contractor and owner to be present.
- B. Select test units as directed by the owner's representative and use an AAMA-accredited laboratory provided by the owner or contractor.

3.04 ADJUSTING AND CLEANING

- A. Adjust door panels as necessary for smooth and weather-tight operation, and leave doors clean and free of construction debris.