

SECTION 08160

SLIDING GLASS DOORS

SOLAR INNOVATIONS, INC.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dual Track Sliding Glass Doors.
- B. Multiple Bay Sliding Glass Doors.
- C. Multiple Bay Pocket Sliding Glass Doors.
- D. No Post Corner Sliding Doors.
- E. Radius Sliding Glass Doors.
- F. Serpentine Radius Sliding Doors.
- G. Tilt-n-Slide Doors.
- H. Tilt-n-Slide Windows.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Openings in cast-in-place concrete.
- B. Section 03450 - Precast Concrete Wall Panels: Openings in precast concrete wall panels.
- C. Section 04810 - Unit Masonry Assemblies: Openings in masonry.
- D. Section 05400 - Cold Formed Metal Framing: Framed openings.
- E. Section 06100 - Rough Carpentry: Framed openings.
- F. Section 06200 - Finish Carpentry: Interior wood casing.
- G. Section 07210 - Building Insulation: Batt insulation at window perimeter.
- H. Section 07460 - Siding and trim.
- I. Section 07620 - Flashing and Sheet Metal: Flashing associated with windows and doors.
- J. Section 07900 - Joint Sealers: Perimeter joint sealant and backer rod.

1.3 REFERENCES

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
- B. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
- C. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel.

- D. ASTM B 221 / B221M – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- E. ASTM B 241 / B 241M – Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Tube.
- F. ASTM C 1115 – Standard Specification for Dense Elastomeric Silicone Rubber Gaskets and Accessories.
- G. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
- H. ASTM E 283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- I. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
- J. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
- K. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missiles and Exposed to Cyclic Pressure Differentials
- L. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
- M. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls, and Doors.
- N. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections
- O. AWS D1 - Structural Welding Code.
- P. FGMA - Flat Glass Marketing Association, Glazing Manual.

1.4 PERFORMANCE REQUIREMENTS

- A. System Design: Design and size components to withstand dead and live loads caused by pressure and suction of wind acting normal to plane of door system as calculated in accordance with applicable code.
- B. Dual Track Door system when tested on a typical two or four panel door unit, 123 inches (3124 mm) in width and 95 inches (2413 mm) in height shall meet or exceed SD-HC40 Product Designation conforming to AAMA/WDMA/CSA 101/I.S.2/A440 and the following performance tests.
 - 1. Air Infiltration Test: ASTM E 283:
 - a. Force of 1.57 psf (25 mph) = Products in testing.
 - b. Force of 6.24psf (50 mph) = Products in testing.
 - 2. Water Penetration Test: ASTM E 331 and ASTM E 547:
 - a. Water pressure of 6.0 psf and 5.0 gph/ft² = Products in testing.
 - 3. Uniform Structural Load Test: ASTM E 330:
 - a. Force of 60.0 psf minimum exterior = Products in testing.
 - b. Force of 60.0 psf minimum interior = Products in testing.
 - 4. Thermal Penetration Test: AAMA 1503-9:

- a. Thermal Transmittance (U Value) = Products in testing.
 - b. Condensation Resistance Factor (CRF) = Products in testing.
- C. Multi Track Door system (with or without pocket) when tested on a typical four panel door unit, 190 3/8 inches (3124 mm) in width and 95 inches (2413 mm) in height shall meet or exceed SD-HC40 Product Designation conforming to AAMA/WDMA/CSA 101/I.S.2/A440 and the following performance tests.
1. Air Infiltration Test: ASTM E 283:
 - a. Force of 1.57 psf (25 mph) = Products in testing.
 - b. Force of 6.24psf (50 mph) = Products .
 2. Water Penetration Test: ASTM E 331 and ASTM E 547:
 - a. Water pressure of 6.0 psf and 5.0 gph/ft² = Products in testing.
 3. Uniform Structural Load Test: ASTM E 330:
 - a. Force of 60.0 psf min. exterior = Products in testing.
 - b. Force of 60.0 psf min. interior = Products in testing.
 4. Thermal Penetration Test: AAMA 1503-9:
 - a. Thermal Transmittance (U Value) = Products in testing.
 - b. Condensation Resistance Factor (CRF) = Products in testing.
- D. No Post corner sliding doors, Radius sliding glass doors and Serpentine radius sliding doors
1. Air Infiltration Test: ASTM E 283:
 - a. _____ = Products testing per project.
 2. Water Penetration Test: ASTM E 331 and ASTM E 547:
 - a. _____ = Products testing per project.
 3. Uniform Structural Load Test: ASTM E 330:
 - a. _____ = Products testing per project.
 4. Thermal Penetration Test: AAMA 1503-9:
 - a. _____ = Products testing per project.
- E. High Velocity Wind and Impact Rated Doors: Multi Track Door system when tested on a typical 4 panel door unit, 190-3/8 inches (4835.52 mm) in width and 96-31/32 inches (2463 mm) in height shall meet or exceed the following:
1. High Velocity Hurricane Zone: Air Infiltration test, ASTM E 283 in accordance with TAS 202-94:
 - a. Force of 1.57 psf (25 mph) = Products in testing.
 2. High Velocity Hurricane Zone: Water Infiltration test, ASTM E 331 in accordance with TAS 202-94:
 - a. Water pressure of 9.0 psf = Products in testing
 3. High Velocity Hurricane Zone: Static Test, ASTM E 330 in accordance with TAS 202-94:
 - a. Force of 90.0 psf min. exterior = Products in testing.
 - b. Force of 90.0 psf min. interior = Products in testing.
 4. Large Missile Impact: ASTM E 1886 and ASTM E 1996 for large missile impact in accordance with TAS 201-94:
 - a. Speed of 50 ft/sec = Products in testing.
 5. Cycle Pressure Loading: ASTM E 1886 and ASTM E 1996 for cycling pressure in accordance with TAS 203-94:
 - a. Design Pressure of plus 60 psf = Products in testing.
 - b. Design Pressure of minus 60 psf = Products in testing.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop Drawings: Detailed drawings prepared specifically for the project by manufacturer. Show opening dimensions, framed opening tolerances, profiles, product components, anchorages, accessories.
1. Elevations indicating size and configuration of fixed and sliding panels.
 2. Detail sections of fittings.
 3. Indicate location and sizes of anchorages and reinforcement.
 4. Indicate material thickness, fastener locations, glazing, and hardware arrangements.
 5. Include schedule identifying each unit, with marks or numbers referencing drawings.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples:
1. Aluminum Finish: Two samples, minimum size 2 by 3 inches (50 by 75 mm), representing actual product and color.
 2. Glass: Two samples, minimum size 12 inches (300 mm) square, of specified glass.
 3. Assembly Sample: 24 by 36 inch (600 by 900 mm) assembly complete with glazing, gaskets, fasteners, anchors, and finish; do not proceed with fabrication until workmanship and color are approved by Architect.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum 5 years experience in fabrication and erection of sliding glass door systems for projects of similar scope.
- B. Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Install glass door system mock-up in location designated by Architect.
 2. Do not proceed with remaining work until installed system is approved by Architect.
 3. Refinish mock-up area as required to produce acceptable work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect factory finishes from damage, precipitation and construction materials until ready for installation.

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.
- B. Perform structural silicone sealant work when air temperature is above 10 degrees F (minus 12 degrees C),

1.9 WARRANTY

- A. Provide manufacturer's warranty that properly installed door system will be free from significant defects in material, workmanship, and uncontrolled water leakage for five (5) years from date of Substantial Completion.
- B. Warranty anodized aluminum finish for five (5) years.
- C. For stock color 50 percent fluoropolymer finishes, provide warranty for color and film integrity for ten (10) years from date of application.
- D. For custom color 50 percent fluoropolymer finishes, provide paint manufacturer's warranty for color and film integrity for at least five (5) years from date of application.
- E. For glazing, provide glazing manufacturer's standard warranty against defective materials, delamination, seal failure, and defects in manufacturing for at least five (5) years.
- F. For custom color 70 percent fluoropolymer finishes, provide paint manufacturer's warranty for color and film integrity for at least ten (10) years from date of application.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: **Solar Innovations**; 31 Roberts Road, Pine Grove, PA 17963. ASD.
Tel: (800) 618-0669. Tel: (570) 915-1500. Fax: (570) 915-6083.
Email: skylight@solarinnovations.com. www.solarinnovations.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SLIDING GLASS DOORS

- A. Provide sliding glass doors factory assembled and glazed, complete with weatherstripping, glazing, operating hardware, and specified accessories. Door system shall be provided to fit the openings indicated on the Drawings and as follows:
 - 1. Dual Track Sliding Doors 8000 Series:
 - a. Door Size/Configuration:
 - 1) Size: _____.
 - 2) Configuration: _____ Operable Panels and _____ Fixed Panels.
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) sealed insulating glass.
 - 2) 1/4 inch (6.35 mm) tempered glass.
 - 3) 7/16 inch (11.11 mm) high strength laminated glass.
 - c. Interior Grids.
 - d. Simulated Divided Lites. (Low profile grids only.)
 - e. Decorative Panels.
 - f. Sliding Screen Doors: Provide with matching, 1 inch (25 mm) by 2 inch (51 mm) (minimum) frame sliding screen doors.
 - g. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermal break separation.
 - h. Sill: Provide with standard sill with 1.1 inch (28 mm) interior lip.
 - i. Sill: Provide with high performance sill with a 2 inch (51 mm) interior lip.

- j. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - k. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - l. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - m. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - n. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.
 - o. Hardware:
 - 1) Steel bearings.
 - 2) Stainless steel bearings.
 - 3) Provide with interior mount head and sill security locks.
 - p. Interior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
 - q. Exterior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
 - r. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.
2. Multiple Bay Sliding Doors 8100 Series:
- a. Door Size/Configuration:
 - 1) Size: _____.
 - 2) Configuration: _____ Operable Panels and _____ Fixed Panels.
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) sealed insulating glass.
 - 2) 1/4 inch (6.35 mm) tempered glass.
 - 3) 7/16 inch (14.29 mm) high strength laminated glass.
 - c. Interior Grids.
 - d. Simulated Divided Lites.
 - e. Decorative Panels.
 - f. Sliding Screen Doors: Provide with matching, 1 inch (25 mm) by 2 inch (51 mm) (minimum) frame sliding screen doors.
 - g. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermal break separation.
 - h. Sill:
 - 1) Provide with standard multiple bay sill with 0.48 inch (12 mm) height.
 - 2) Provide with mid-performance sill with a 1.25 inch (32 mm) interior lip at the interior side of the opening.
 - 3) Provide ramp at exterior side of the opening.
 - i. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - j. High Wind Load Bottom Rail: Provide with 4.857 inch (123.36 mm) height using a 3 inch (76 mm) roller.
 - k. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - l. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - m. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - n. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.

- o. Hardware:
 - 1) Steel bearings.
 - 2) Stainless steel bearings.
 - 3) Sliding door roller size: 1-1/2 inch (38 mm).
 - 4) Sliding door roller size: 1-13/16 inch (46 mm).
 - 5) Sliding door roller size: 3 inch (76 mm).
 - 6) Sliding door roller size: 3-1/4 inch (82 mm).
 - 7) Provide with interior mount head and sill security locks.
- p. Interior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
- q. Exterior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
- r. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.
- 3. Multiple Bay Pocket Sliding Doors 8120 Series:
 - a. Door Size/Configuration:
 - 1) Size: _____.
 - 2) Configuration: _____ Operable Panels and _____ Fixed Panels.
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) sealed insulating glass.
 - 2) 1/4 inch (6.35 mm) tempered glass.
 - 3) 7/16 inch (14.29 mm) high strength laminated glass.
 - c. Interior Grids.
 - d. Simulated Divided Lites.
 - e. Decorative Panels.
 - f. Sliding Screen Doors: Provide with matching, 1 inch (25 mm) by 2 inch (51 mm) (minimum) frame sliding screen doors.
 - g. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermal break separation.
 - 3) Provide with standard multiple bay sill with 0.48 inch (12 mm) height.
 - 4) Provide with mid performance sill with a 1.25 inch (32 mm) interior lip at the interior side of the opening.
 - 5) Provide ramp at exterior side of the opening.
 - h. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - i. High Wind Load Bottom Rail: Provide with 4.857 inch (123.36 mm) height using a 3 inch (76 mm) roller.
 - j. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - k. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - l. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - m. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.
 - n. Hardware:
 - 1) Steel bearings.
 - 2) Stainless steel bearings.

- 3) Sliding door roller size: 1-1/2 inch (38 mm).
- 4) Sliding door roller size: 1-13/16 inch (46 mm).
- 5) Sliding door roller size: 3 inch (76 mm).
- 6) Sliding door roller size: 3-1/4 inch (82 mm).
- 7) Provide with interior mount head and sill security locks.
- o. Interior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
- p. Exterior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
- q. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.
4. No Post Corner Sliding Doors 8110 Series:
 - a. Door Size/Configuration:
 - 1) Size: _____.
 - 2) Configuration:
 - (a) Inside mount, two operable panel, inside corner slider.
 - (b) Inside frame mount, one operable panel, inside corner slider.
 - (c) Outside mount, two operable panel, outside corner sliders.
 - (d) Inside frame mount, one operable panel, outside corner sliders.
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) sealed insulating glass.
 - 2) 1/4 inch (6.35 mm) tempered glass.
 - 3) 7/16 inch (14.29 mm) high strength laminated glass.
 - c. Interior Grids.
 - d. Simulated Divided Lites.
 - e. Decorative Panels.
 - f. Sliding Screen Doors: Provide with matching 1 inch (25 mm) by 2 inch (51 mm) (minimum) frame sliding screen doors.
 - g. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermal break separation.
 - h. Sill:
 - 1) Provide with standard multiple bay sill with 0.48 inch (12 mm) height.
 - 2) Provide with mid-performance sill with a 1.25 inch (32 mm) interior lip at the interior side of the opening.
 - 3) Provide ramp at exterior side of the opening.
 - i. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - j. High Wind Load Bottom Rail: Provide with 4.857 inch (123.36 mm) height using a 3 inch (76 mm) roller.
 - k. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - l. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - m. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - n. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.
 - o. Hardware:

- 1) Steel bearings.
 - 2) Stainless steel bearings.
 - 3) Sliding door roller size: 1-1/2 inch (38 mm).
 - 4) Sliding door roller size: 1-13/16 inch (46 mm).
 - 5) Sliding door roller size: 3 inch (76 mm).
 - 6) Sliding door roller size: 3-1/4 inch (82 mm).
 - 7) Provide with interior mount head and sill security locks.
- p. Interior Door Handles:
- 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
- q. Exterior Door Handles:
- 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
- r. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.
5. Radius Sliding Doors 8130 Series:
- a. Door Size/Configuration:
 - 1) Size: Panel height _____.
 - 2) Configuration: Two operable panels with a 7 foot 7-11/16 inch (2.31 m) radius with a clear opening of 7 foot 6-11/16 inches (2.29 M).
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) tempered glass.
 - 2) Custom glazing _____.
 - c. Sliding Screen Doors: Provide with matching radius sliding screen doors.
 - d. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermo break separation.
 - e. Sill:
 - 1) Provide with standard multiple bay sill with 0.48 inch (12 mm) height.
 - 2) Provide with high performance flush sill.
 - f. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - g. High Wind Load Bottom Rail: Provide with 4.857 inch (123.36 mm) height using a 3 inch (76 mm) roller.
 - h. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - i. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - j. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - k. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.
 - l. Hardware:
 - 1) Steel bearings.
 - 2) Stainless steel bearings.
 - 3) Sliding door roller size: 1-1/2 inch (38 mm).
 - 4) Sliding door roller size: 1-13/16 inch (46 mm).
 - 5) Sliding door roller size: 3 inch (76 mm).
 - 6) Sliding door roller size: 3-1/4 inch (82 mm).
 - 7) Provide with interior mount head and sill security locks.
 - m. Interior Door Handles:

- 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
- n. Exterior Door Handles:
- 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
- o. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.
6. Serpentine Radius Sliding Doors 8131 Series:
- a. Door Size/Configuration:
 - 1) Size: Panel height _____.
 - 2) Configuration: Two operable serpentine sliding panels with a 7 foot 7-11/16 inch (2.31 m) radius with a clear opening of 7 foot 6-11/16 inches (2.29 M).
 - 3) As indicated on the Drawings.
 - b. Glazing:
 - 1) 1 inch (25 mm) tempered glass.
 - 2) Custom glazing _____.
 - c. Sliding Screen Doors: Provide with matching radius sliding screen doors.
 - d. Framing:
 - 1) Extruded aluminum.
 - 2) Extruded aluminum frame with thermal break separation.
 - e. Sill:
 - 1) Provide with standard multiple bay sill with 0.48 inch (12 mm) height.
 - 2) Provide with high performance flush sill.
 - f. Standard Bottom Rail: Provide with standard 2.587 inch (66 mm) height using a 1-1/2 inch (38 mm) roller.
 - g. High Wind Load Bottom Rail: Provide with 4.857 inch (123.36 mm) height using a 3 inch (76 mm) roller.
 - h. Standard Hook Rail: Provide with standard 1.423 inch (36.14 mm) width.
 - i. Standard Flush Rail: Provide with standard 1.420 inch (36.06 mm) width.
 - j. Hurricane Hook Rail: Provide with standard 3.420 inch (88.87 mm) width.
 - k. Hurricane Flush Rail: Provide with standard 3.420 inch (86.87 mm) width.
 - l. Hardware:
 - 1) Steel bearings.
 - 2) Stainless steel bearings.
 - 3) Sliding door roller size: 1-1/2 inch (38 mm).
 - 4) Sliding door roller size: 1-13/16 inch (46 mm).
 - 5) Sliding door roller size: 3 inch (76 mm).
 - 6) Sliding door roller size: 3-1/4 inch (82 mm).
 - 7) Provide with interior mount head and sill security locks.
 - m. Interior Door Handles:
 - 1) Finish: Black.
 - 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Two point anti-slam lock set without keyed cylinder.
 - 6) Two point anti-slam lock set with keyed cylinder.
 - n. Exterior Door Handles:
 - 1) Finish: Black.

- 2) Finish: White.
 - 3) Finish: Brass.
 - 4) Finish: Custom.
 - 5) Handle Type: Straight Handle.
 - 6) Handle Type: Recessed handle and lock.
 - 7) Handle Type: Two point lock set.
- o. Weather Gaskets: Provide doors with perimeter weather gaskets of high quality EPDM with anti-shrink cord.

2.3 MATERIALS

- A. Aluminum: 6063-T6, 6063-T5, or 6105-T5 alloy and temper. Other alloys and tempers may be used for non-structural members provided they do not void the required warranties. Indicate alloys and tempers clearly on shop drawings and in structural calculations.
1. Framing Members: Thickness based on the design loading, cross sectional configuration, and fabrication requirement.
 2. Aluminum Flashing and Closures: Minimum of 0.040 inches (1.0 mm) thick.
 3. Snap-On Covers and Miscellaneous Non-Structural Trim: Minimum thickness recommended by the manufacturer.
- B. Glazing: Provide glazing type as recommended by the manufacturer for the project.
- C. Flashings: Sheet aluminum, same finish as for system components; secured with concealed fastening method or fastener with head finished to match; thickness as required for conditions encountered.
- D. Thermal Break: Manufacturer's standard system to provide thermal separation between exterior and interior components.
- E. Internal Reinforcing:
1. ASTM A 36/A 36M for carbon steel; or ASTM B 221/B 221M and ASTM B 241/B 241M for structural aluminum.
 2. Shapes and sizes to suit installation.
 3. Shop coat steel components after fabrication with manufacturer recommended primer.
- F. Glazing Gaskets: Compression type design, replaceable; EPDM, complying with ASTM C 864, with solid strand cord to prevent shrinkage or; Elastomeric silicone with solid strand cord to prevent shrinkage, complying with ASTM C 1115, as recommended by the manufacturer.
1. Completely compatible with glazing sealant to be used.
 2. Profile and hardness as necessary to maintain uniform pressure for watertight seal.
 3. Manufacturer's standard black color.
 4. Factory molded corners required at interior.
- G. Setting Blocks, Edge Blocks, and Spacers: As required by manufacturer and compatible with insulated glass where required.
- H. Structural Glazing Sealant: GE Silpruf; black.
- I. Perimeter Sealant: GE Silpruf; color to match framing finish if available; otherwise color as selected from manufacturer's standard range.
- J. Anchors and Fasteners:
1. Aluminum and stainless steel of type which will not cause electrolytic action or corrosion.
 2. Zinc cadmium-plated fasteners may be used if acceptable to manufacturer.
 3. Finish exposed fasteners to match aluminum frame.

- K. Accessories: Provide accessories as scheduled to achieve design intent and environmental control.
- L. Aluminum Finish: Anodized complying with AAMA 611.
 - 1. Color: Clear.
 - 2. Color: Dark bronze.
- M. Aluminum Finish: PPG Duracron.
 - 1. Color: Manufacturer's standard bronze color.
 - 2. Color: Manufacturer's standard Hartford green color.
 - 3. Color: Manufacturer's standard white color.
 - 4. Color: Manufacturer's standard sandstone color.
 - 5. Color: Manufacturer's standard black color.
 - 6. Color: Manufacturer's standard natural clay color.
- N. Aluminum Finish: Two coat 50 percent fluoropolymer (PPG Acranar) finish.
 - 1. Color: Manufacturer's standard bronze color.
 - 2. Color: Manufacturer's standard Hartford green color.
 - 3. Color: Manufacturer's standard white color.
 - 4. Color: Manufacturer's standard sandstone color.
 - 5. Color: Manufacturer's standard black color.
 - 6. Color: Manufacturer's standard natural clay color.
- O. Aluminum Finish: Two or three coats 70 percent fluoropolymer (PPG Duranar) finish.
 - 1. Color: Manufacturer's standard bronze color.
 - 2. Color: Manufacturer's standard Hartford green color.
 - 3. Color: Manufacturer's standard white color.
 - 4. Color: Manufacturer's standard sandstone color.
 - 5. Color: Manufacturer's standard natural clay color.
 - 6. Color: Manufacturer's standard black color.
- P. Aluminum Finish: _____.

2.2 FABRICATION

- A. Fabricate components in accordance with approved shop drawings. Remove burrs and rough edges. Shop fabricate to greatest extent practicable to minimize field cutting, splicing, and assembly. Disassemble only to extent necessary for shipping and handling limitations. Install gaskets and tapes in factory.
- B. Welding:
 - 1. Comply with recommendations of American Welding Society.
 - 2. Grind exposed welds smooth and flush with adjacent surfaces before finishing; restore mechanical finish.
- C. Steel Components:
 - 1. Clean surfaces after fabrication and immediately prior to application of primer in accord with manufacturer's recommendations.
 - 2. Apply specified shop coat primer in accord with manufacturer's instructions to provide 2.0 mil (0.05 mm) minimum dry film thickness.
- D. Fabricate components true to detail and free from defects impairing appearance, strength, or durability. Contour outdoor horizontal glazing to minimize water ponding and ice or snow buildup.

- E. Fabricate components to allow for accurate and rigid fit of joints and corners. Match components carefully ensuring continuity of line and design. Ensure joints and connections will be flush and weathertight. Ensure slip joints make full, tight contact and are weathertight.
- F. Reinforce components at anchorage and support points, at joints, and at attachment points for interfacing work.
- G. Glass: Accurately size glass to fit openings allowing clearances following recommendations of "Glazing Manual" published by Flat Glass Marketing Association.
- H. Cut glass clean and carefully. Nicks and damaged edges will not be accepted. Replace glass that has damaged edges.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify openings are ready to receive work and dimensions and clearances are as indicated on the approved shop drawings.
- C. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

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 accordance with manufacturer's instructions.
- B. Install sliding glass door system in accordance with approved shop drawings and manufacturer's instructions.
- C. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- D. Provide attachments and shims to permanently fasten system to building structure.
- E. Maintain dimensional tolerances and alignment with adjacent work.
- F. Anchor system securely in place, allowing for required movement, including expansion and contraction.
- G. Install glazing and sealants in accordance with manufacturer's instructions without exception, including surface preparations.
- H. Set sill members in bed of sealant. Set other members with internal sealants to provide weather tight construction.
- I. Install flashings, bent metal closures, corners, and other accessories as required or detailed.

- J. Clean surfaces and install sealant in accordance with sealant manufacturer's instructions and structure manufacturer's guidelines.

3.4 ADJUSTING AND CLEANING

- A. Adjust hinge sets, locksets, and other hardware for proper operation. Lubricate using a suitable lubricant compatible with door and frame coatings.
- B. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions before owner's acceptance.
- C. Any abraded surface of the finish shall be cleaned and touched up with air dry paint, as approved and furnished by the manufacturer, in a color to match factory applied finish.
- D. Remove from project site and legally dispose of construction debris associated with this work.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair, or replace damaged products before Substantial Completion.

END OF SECTION