



SECTION 08495  
SWINGING/FOLDING DOORS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Folding doors.
- B. Single swing doors.
- C. Double swing doors.

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 and door 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 547 - Water Penetration of Exterior Windows, Curtain Walls, and Doors.
- L. ANSI Z97.1 - American National Standard for safety glazing materials used in buildings - safety performance specifications and methods of test.
- M. AWS D1 - Structural Welding Code.
- N. 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 folding glass wall as calculated in accordance with applicable code.
- B. Folding door system when tested on a 17 foot 7-7/8 inch (5344 mm) by 9 feet 5-1/2 inch (2884 mm) typical four panel folding wall unit, shall meet or exceed the following performance tests.
  - 1. AAMA / WDMA / CSA 101 / I.S.2 / A440: DP 35 structural and water.
  - 2. Water Penetration Test: ASTM E 331 and ASTM E 547:
    - a. Water pressure of 35 psf and 5.0 gph/ft<sup>2</sup> = no leakage.
  - 3. Air Infiltration Test: ASTM E 283:
    - a. 0.16 cfm/ft<sup>2</sup> infiltration in.
    - b. 0.18 cfm/ft<sup>2</sup> infiltration out.
  - 4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 67.5 psf (163 mph):
    - a. Force of 45.0 psf exterior.
    - b. Force of 45.0 psf interior.
  - 5. Thermal Penetration Test: AAMA 1503-9:
    - a. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon.
    - b. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.
- C. Double swing door system when tested on a 17 foot 7-7/8 inch (5344 mm) by 9 feet 5-1/2 inch (2884 mm) double outswing door unit, shall meet or exceed the following performance tests.
  - 1. AAMA / WDMA / CSA 101 / I.S.2 / A440: DP 30 structural and water.
  - 2. Water Penetration Test: ASTM E 331 and ASTM E 547:
    - a. Water pressure of 30 psf and 5.0 gph/ft<sup>2</sup> = no leakage.

3. Air Infiltration Test: ASTM E 283:
    - a. 0.16 cfm/ft<sup>2</sup> infiltration in.
    - b. 0.17 cfm/ft<sup>2</sup> infiltration out.
  4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 60.0 psf (152 mph):
    - a. Force of 40.0 psf exterior.
    - b. Force of 40.0 psf interior.
    - c. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon.
    - d. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.
- D. Single swing door system when tested on a 4 foot 3-3/4 inch (1314 mm) by 9 foot 5-1/2 inch (2884 mm) single outswing door unit, shall meet or exceed the following performance tests.
1. AAMA / WDMA / CSA 101 / I.S.2 / A440: DP 35 structural and water.
  2. Water Penetration Test: ASTM E 331 and ASTM E 547:
    - a. Water pressure of 35 psf and 5.0 gph/ft<sup>2</sup> = no leakage.
  3. Air Infiltration Test: ASTM E 283:
    - a. 0.15 cfm/ft<sup>2</sup> infiltration in.
    - b. 0.17 cfm/ft<sup>2</sup> infiltration out.
  4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 135 psf (230 mph):
    - a. Force of 95.0 psf exterior.
    - b. Force of 95.0 psf interior.
    - c. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon.
    - d. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft<sup>2</sup> / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.

## 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 indicating opening dimensions, framed opening tolerances, profiles, product components, anchorages, and accessories.
  1. 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 representing actual product and color.
  2. Wood Finish: Two samples representing actual wood product and finish.
  3. Glass: Two samples of specified glass, including coatings or frit pattern.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment of hardware and periodic care and maintenance of components.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with documented experience in fabrication and erection of glazed window wall systems for projects of similar scope.
- B. Installer Qualifications: Documented 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. 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.
  - 4. Incorporate accepted mock-up as part of the 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.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.8 SEQUENCING

- A. Ensure that shop drawings, locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

#### 1.9 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.

#### 1.10 WARRANTY

- A. Manufacturer's standard warranty indicating that the doors will be free from material and workmanship defects for the time periods indicated below:
  - 1. Door Unit: 10 years.
  - 2. Screen and Shade: 5 years only.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Centor, which is located at: 1206 Nagel Blvd. ; Batavia, IL 60510; Tel: 630-957-1000; Fax: 630-957-1001; Email:[request info \(mailto:centorarchitectural.com\)](mailto:request info (mailto:centorarchitectural.com)); Web:[www.centor.com](http://www.centor.com)
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section

01600.

## 2.2 FOLDING DOORS

- A. Folding Doors: Provide Centor Integrated Folding doors factory assembled and glazed, complete with weatherstripping, glazing, operating hardware, and specified accessories. System shall be provided to fit the openings and configurations indicated on the Drawings and as follows:
1. Frame Size:
    - a. \_\_\_\_\_.
    - b. As indicated on the Drawings.
  2. Panel Size:
    - a. \_\_\_\_\_.
    - b. As indicated on the Drawings.
  3. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
  4. Hardware:
    - a. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
    - b. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
  5. Door handles:
    - a. Design: Stuttgart
    - b. Design: Luzern
    - c. Design: Kiel
    - d. Finish: Satin Nickel
    - e. Finish: Oil Rubbed Bronze
  6. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single handed operation.
    - a. Keyed
    - b. Un-keyed
    - c. Concealed aluminum hinges and hardware (other than handles):
    - d. Finish: Brushed stainless.
    - e. Finish: Black anodized.
  7. Screens: Polyester/PVC mesh retractable insect screen system with Greenguard GOLD certification and Load Balancing Technology providing fingertip control. Pet resistant and tear and puncture resistant fabric with Microban antimicrobial protection to inhibit growth of bacteria on screen.
    - a. Standard weave
    - b. Tight weave
  8. Shades: Tested to be free of harmful chemical in accordance with Oeko-Tex Standard 100. Retractable Polyester shade with Teflon fabric protector:
    - a. Color and pattern: As indicated in Color Schedule on Drawings.
    - b. Color and pattern: As selected by Architect from manufacturer's standard range.
    - c. Color and pattern as follows:
    - d. Pattern: Boston:
      - 1) Fabric: Light-filtering.
      - 2) Fabric: Blackout.
      - 3) Color: Marshmallow
      - 4) Color: Quartz
      - 5) Color: Stone
      - 6) Color: Chinchilla
      - 7) Color: Buffalo
      - 8) Color: Silver
      - 9) Color: Shark

- 10) Color: Charcoal
- 11) Color: Ebony
- e. Pattern: Tuscany
  - 1) Fabric: Light-filtering.
  - 2) Fabric: Blackout.
  - 3) Color: Parchment
  - 4) Color: Eggshell
  - 5) Color: Oatmeal
  - 6) Color: Biscotti
  - 7) Color: Stone
  - 8) Color: Bisque
  - 9) Color: Earth
  - 10) Color: Ash
  - 11) Color: Smoke
  - 12) Color: Charcoal
- f. Pattern: Sydney
  - 1) Fabric: Light-filtering.
  - 2) Fabric: Blackout.
  - 3) Color: Snow
  - 4) Color: White
  - 5) Color: Stone
  - 6) Color: Shitake
  - 7) Color: Iron
  - 8) Color: Black
- 9. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
  - a. Double Glaze - 1 inch (25.4 mm) Thickness:
    - 1) Exterior Clear, Interior Clear, Gas No, Spacer bar AL
    - 2) Exterior Clear, Interior Clear, Gas Yes, Spacer bar SS
    - 3) Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS
    - 4) Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS
  - b. Triple Glaze - 1 inch (25.4 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
  - c. Triple Glaze - 1-1/4 inch (32 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
- 10. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
  - a. Interior Wood:
    - 1) Unfinished Mahogany
    - 2) Unfinished Fir
    - 3) Unfinished Alder
    - 4) Primed
  - b. Exterior Aluminum: Standard thermosetting acrylic resin finish.
    - 1) Color: Bone White
    - 2) Color: Artic White
    - 3) Color: Burnt Sun
    - 4) Color: Beige
    - 5) Color: Slate Gray,
    - 6) Color: Sage Brown
    - 7) Color: Colonial Red

- 8) Color: Hartford Green
  - 9) Color: Quaker Bronze
  - 10) Color: Black
  - 11) Color: Custom color as selected by the Architect.
11. Sill Finishes: Aluminum: Anodized complying with AAMA 611
- a. Color: Clear.
  - b. Color: Dark Bronze
  - c. Color: Custom color as selected by the Architect.

## 2.3 SWING DOORS

A. Double-Swing Doors: Provide Centor Integrated double-swing doors factory assembled and glazed, complete with weatherstripping, glazing, operating hardware, and specified accessories. System shall be provided to fit the openings and configurations indicated on the Drawings and as follows:

1. Frame Size:
  - a. \_\_\_\_\_.
  - b. As indicated on the Drawings.
2. Panel Size:
  - a. \_\_\_\_\_.
  - b. As indicated on the Drawings.
3. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
4. Hardware:
  - a. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
  - b. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
5. Door handles:
  - a. Design: Stuttgart
  - b. Design: Luzern
  - c. Design: Kiel
  - d. Finish: Satin Nickel
  - e. Finish: Oil Rubbed Bronze
6. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single handed operation.
  - a. Keyed
  - b. Un-keyed
7. Hinges: Concealed aluminum hinges and hardware (other than handles):
  - a. Finish: Brushed stainless.
  - b. Finish: Black anodized.
8. Screens: Polyester/PVC mesh retractable insect screen system with Greenguard GOLD certification and Load Balancing Technology providing fingertip control. Pet resistant and tear and puncture resistant fabric with Microban antimicrobial protection to inhibit growth of bacteria on screen.
  - a. Standard weave
  - b. Tight weave
9. Shades: Tested to be free of harmful chemical in accordance with Oeko-Tex Standard 100. Retractable Polyester shade with Teflon fabric protector and fabricated in:
  - a. Color and pattern: As indicated in Color Schedule on Drawings.
  - b. Color and pattern: As selected by Architect from manufacturer's standard range.
  - c. Color and pattern as selected:
  - d. Pattern: Boston:
    - 1) Fabric: Light-filtering.
    - 2) Fabric: Blackout.

- 3) Color: Marshmallow
- 4) Color: Quartz
- 5) Color: Stone
- 6) Color: Chinchilla
- 7) Color: Buffalo
- 8) Color: Silver
- 9) Color: Shark
- 10) Color: Charcoal
- 11) Color: Ebony
- e. Pattern: Tuscany
  - 1) Fabric: Light-filtering.
  - 2) Fabric: Blackout.
  - 3) Color: Parchment
  - 4) Color: Eggshell
  - 5) Color: Oatmeal
  - 6) Color: Biscotti
  - 7) Color: Stone
  - 8) Color: Bisque
  - 9) Color: Earth
  - 10) Color: Ash
  - 11) Color: Smoke
  - 12) Color: Charcoal
- f. Pattern: Sydney
  - 1) Fabric: Light-filtering.
  - 2) Fabric: Blackout.
  - 3) Color: Snow
  - 4) Color: White
  - 5) Color: Stone
  - 6) Color: Shitake
  - 7) Color: Iron
  - 8) Color: Black
- 10. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
  - a. Double Glaze - 1 inch (25.4 mm) Thickness:
    - 1) Exterior Clear, Interior Clear, Gas No, Spacer bar AL
    - 2) Exterior Clear, Interior Clear, Gas Yes, Spacer bar SS
    - 3) Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS
    - 4) Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS
  - b. Triple Glaze - 1 inch (25.4 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
  - c. Triple Glaze - 1-1/4 inch (32 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
- 11. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
  - a. Interior Wood:
    - 1) Unfinished Mahogany
    - 2) Unfinished Fir
    - 3) Unfinished Alder
    - 4) Primed
  - b. Exterior Aluminum: Standard thermosetting acrylic resin finish.



- 1) Color: Bone White
  - 2) Color: Artic White
  - 3) Color: Burnt Sun
  - 4) Color: Beige
  - 5) Color: Slate Gray,
  - 6) Color: Sage Brown
  - 7) Color: Colonial Red
  - 8) Color: Hartford Green
  - 9) Color: Quaker Bronze
  - 10) Color: Black
  - 11) Color: Custom color as selected by the Architect.
12. Sill Finishes: Aluminum: Anodized complying with AAMA 611
- 1) Color: Clear.
  - 2) Color: Dark Bronze
  - 3) Color: Custom color as selected by the Architect.

B. Single-Swing Doors: Provide Centor Integrated single-swing doors factory assembled and glazed, complete with weatherstripping, glazing, operating hardware, and specified accessories. System shall be provided to fit the openings and configurations indicated on the Drawings and as follows:

1. Frame Size:
  - a. \_\_\_\_\_.
  - b. As indicated on the Drawings.
2. Panel Size:
  - a. \_\_\_\_\_.
  - b. As indicated on the Drawings.
3. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
4. Hardware:
  - a. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
  - b. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
5. Door handles:
  - a. Design: Stuttgart
  - b. Design: Luzern
  - c. Design: Kiel
  - d. Finish: Satin Nickel
  - e. Finish: Oil Rubbed Bronze
6. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single-handed operation.
  - a. Keyed
  - b. Un-keyed
7. Hinges: Concealed aluminum hinges and hardware other than handles:
  - a. Finish: Brushed stainless.
  - b. Finish: Black anodized.
8. Screens: Polyester/PVC mesh retractable insect screen system with Greenguard GOLD certification and Load Balancing Technology providing fingertip control. Pet resistant and tear and puncture resistant fabric with Microban antimicrobial protection to inhibit growth of bacteria on screen.
  - a. Standard weave
  - b. Tight weave
9. Shades: Tested to be free of harmful chemical in accordance with Oeko-Tex Standard 100. Retractable Polyester shade with Teflon fabric protector and fabricated in:
  - a. Color and pattern: As indicated in Color Schedule on Drawings.
  - b. Color and pattern: As selected by Architect from manufacturer's standard

- range.
  - c. Color and pattern as selected:
  - d. Pattern: Boston:
    - 1) Fabric: Light-filtering.
    - 2) Fabric: Blackout.
    - 3) Color: Marshmallow
    - 4) Color: Quartz
    - 5) Color: Stone
    - 6) Color: Chinchilla
    - 7) Color: Buffalo
    - 8) Color: Silver
    - 9) Color: Shark
    - 10) Color: Charcoal
    - 11) Color: Ebony
  - e. Pattern: Tuscany
    - 1) Fabric: Light-filtering.
    - 2) Fabric: Blackout.
    - 3) Color: Parchment
    - 4) Color: Eggshell
    - 5) Color: Oatmeal
    - 6) Color: Biscotti
    - 7) Color: Stone
    - 8) Color: Bisque
    - 9) Color: Earth
    - 10) Color: Ash
    - 11) Color: Smoke
    - 12) Color: Charcoal
  - f. Pattern: Sydney
    - 1) Fabric: Light-filtering.
    - 2) Fabric: Blackout.
    - 3) Color: Snow
    - 4) Color: White
    - 5) Color: Stone
    - 6) Color: Shitake
    - 7) Color: Iron
    - 8) Color: Black
10. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
- a. Double Glaze - 1 inch (25.4 mm) Thickness:
    - 1) Exterior Clear, Interior Clear, Gas No, Spacer bar AL
    - 2) Exterior Clear, Interior Clear, Gas Yes, Spacer bar SS
    - 3) Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS
    - 4) Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS
  - b. Triple Glaze - 1 inch (25.4 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
  - c. Triple Glaze - 1-1/4 inch (32 mm) Thickness
    - 1) Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS
    - 2) Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS
11. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
- a. Interior Wood:.

- 1) Unfinished Mahogany
- 2) Unfinished Fir
- 3) Unfinished Alder
- 4) Primed
- b. Exterior Aluminum: Standard thermosetting acrylic resin finish.
  - 1) Color: Bone White
  - 2) Color: Artic White
  - 3) Color: Burnt Sun
  - 4) Color: Beige
  - 5) Color: Slate Gray,
  - 6) Color: Sage Brown
  - 7) Color: Colonial Red
  - 8) Color: Hartford Green
  - 9) Color: Quaker Bronze
  - 10) Color: Black
  - 11) Color: Custom color as selected by the Architect.
12. Sill Finishes: Aluminum: Anodized complying with AAMA 611
  - 1) Color: Clear.
  - 2) Color: Dark Bronze
  - 3) Color: Custom color as selected by the Architect.

## 2.4 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.
  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. 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.
- C. 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.
- D. 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.
- E. Setting Blocks, Edge Blocks, and Spacers: As required by manufacturer and compatible with insulated glass where required.
- F. Structural Glazing Sealant: GE Silpruf; black.
- G. Perimeter Sealant: GE Silpruf; color to match framing finish if available; otherwise color as selected from manufacturer's standard range.

- H. Anchors and Fasteners:
  - 1. Aluminum and stainless steel of type that 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.
- I. Accessories: Provide accessories as scheduled to achieve design intent and environmental control.

## 2.5 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. Verify that the structural capability of the header and supports meet the manufacturer's recommendations for lateral, live and dead loads and deflection and sag over time.
- C. 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. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- C. Provide attachments and shims to permanently fasten system to building structure.
- D. Maintain dimensional tolerances and alignment with adjacent Work.
- E. Anchor securely in place, allowing for required movement, including expansion and contraction.
- F. Install glazing and sealants in accordance with manufacturer's instructions without exception, including surface preparations.
- G. Set sill members in bed of sealant. Set other members with internal sealants to provide weathertight construction.
- H. Install flashings, closures, corners, and other accessories as required or detailed.
- I. Clean surfaces and install sealant in accordance with sealant manufacturer's instructions and structure manufacturer's guidelines.

### 3.4 ADJUSTING AND CLEANING

- A. Adjust pivot sets, locksets, and other hardware for proper operation in accordance with manufacturer's instructions. Lubricate using recommended 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.

### 3.6 SCHEDULES

- A. :

B. :

END OF SECTION