SECTION 08 43 33

SWINGING/FOLDING DOORS

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* Centor; Folding, double-swing and single door systems, with integrated vanishing insect screens, fabric shades and hardware.  
.  
This section is based on the products of Centor, which is located at:  
966-130 Corporate Blvd.  
Aurora, IL 60502  
Tel: 630-957-1000  
Fax: 630-957-1001  
Email: [request info (mail@centorarchitectural.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Centor&coid=46644&rep=&fax=630-957-1001&message=RE:%20Spec%20Question%20(08495cen):%20%20&mf=)  
Web: <http://centor.com/us>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos46/arc46644.html) ] for additional information.  
Centor is an award-winning designer and manufacturer of beautiful eco-friendly integrated doors for large exterior openings, combining door, screen and shade into one complete system. Founded in 1951, Centor's primary goal has been to remain at the forefront of innovation for window and door systems. The company has expanded over the past 62 years using its expertise in folding, sliding, screening and locking systems to develop the Centor Integrated Door Series, creating the world's first doors in the new integrated door category.  
This specification includes folding, double-swing and single door systems, with integrated vanishing insect screens, fabric shades and hardware designed to connect people with the world outside. Applying imagination and ingenuity from the design phase through the manufacturing process, Centor's highly functional doors combine the finest materials and latest technology to ensure homeowners gets the best indoor/outdoor living experience from the Centor Integrated Door Series.  
Centor's products have earned the company a series of awards for its breakthrough technologies including the AMP National Innovation Award for Australia, two U.S. Crystal Achievement Awards, the Telstra Queensland Business of the Year Award and the Ernst & Young Entrepreneur of the Year Award.  
Centor has grown to now span four continents and seven time zones. Centor manufactures and distributes its North American products through U.S. headquarters in Chicago and also operates internationally. Centor Integrated Dealers are located across the U.S.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Folding doors.
    2. Single swing doors.
    3. Double swing doors.
    4. Sliding glass doors.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 03 45 13 - Faced Architectural Precast Concrete.
    3. Section 04 27 23 - Cavity Wall Unit Masonry.
    4. Section 05 40 00 - Cold-Formed Metal Framing.
    5. Section 06 10 00 - Rough Carpentry.
    6. Section 06 20 00 - Finish Carpentry.
    7. Section 07 21 19 - Foamed-In-Place Insulation.
    8. Section 07 46 16 - Aluminum Siding.
    9. Section 07 62 00 - Sheet Metal Flashing and Trim.
    10. Section 07 90 00 - Joint Protection.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, and A440-11 - NAFS - North American Fenestration Standard Specification for windows, doors, and skylights.
    2. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum.
    3. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
    4. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel.
    5. ASTM B 221 / B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
    6. ASTM B 241 / B 241M - Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Tube.
    7. ASTM C 1115 - Standard Specification for Dense Elastomeric Silicone Rubber Gaskets and Accessories.
    8. ASTM C 864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
    9. 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.
    10. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
    11. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
    12. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls, and Doors.
    13. ASTM E 1300 - Standard Practice for Determining Load Resistance of Glass in Buildings
    14. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differential.
    15. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
    16. ANSI Z97.1 - American National Standard for safety glazing materials used in buildings - safety performance specifications and methods of test.
    17. AWS D1 - Structural Welding Code.
    18. FGMA - Flat Glass Marketing Association, Glazing Manual
    19. Florida Building Code TAS 201 - Impact Test Procedures.
    20. Florida Building Code TAS 202 - Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure Loading.
    21. Florida Building Code TAS 203 - Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs for the swing / folding door systems to suit project requirements. Coordinate performance requirements with the manufacturer for the project location, wall size, and local building code requirements.

* 1. PERFORMANCE REQUIREMENTS
     1. 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.
     2. 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:
           1. Water pressure of 35 psf and 5.0 gph/ft2 = no leakage.
        3. Air Infiltration Test: ASTM E 283:
           1. 0.16 cfm/ft2 infiltration in.
           2. 0.18 cfm/ft2 infiltration out.
        4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 67.5 psf (163 mph):
           1. Force of 45.0 psf exterior.
           2. Force of 45.0 psf interior.
        5. Thermal Penetration Test: AAMA 1503-9:
           1. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon.
           2. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.
     3. Double swing door system when tested on a 83.1 inch (2111 mm) by 113.5 inch (2883 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:
           1. Water pressure of 30 psf and 5.0 gph/ft2 = no leakage.
        3. Air Infiltration Test: ASTM E 283:
           1. 0.16 cfm/ft2 infiltration in.
           2. 0.17 cfm/ft2 infiltration out.
        4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 60.0 psf (152 mph):
           1. Force of 40.0 psf exterior.
           2. Force of 40.0 psf interior.
           3. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon.
           4. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.
     4. 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:
           1. Water pressure of 35 psf and 5.0 gph/ft2 = no leakage.
        3. Air Infiltration Test: ASTM E 283:
           1. 0.15 cfm/ft2 infiltration in.
           2. 0.17 cfm/ft2 infiltration out.
        4. Uniform Structural Load Test: ASTM E 330 Test conducted at 150 percent rated load, 135 psf (230 mph):
           1. Force of 95.0 psf exterior.
           2. Force of 95.0 psf interior.
           3. Thermal Transmittance (U Value) = 0.23 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon.
           4. Thermal Transmittance (U Value) = 0.19 btu/hr/ ft2 / Degrees F with Triple Glazed Low e, Argon and blind in drawn position.
     5. Series 211 Impact sliding glass door XO system when tested on a 152 inch (3860.8 mm) by 114 inch (2895.6 mm) sliding glass door unit, shall meet or exceed the following performance tests.
        1. AAMA / WDMA / CSA 101 / I.S.2 / A440: DP 75 structural and water.
           1. Water Penetration Test: ASTM E 331 and ASTM E 547: Water pressure of 14.2 psf = no leakage.
           2. ASTM E 1886-05 and ASTM E 1996-09
           3. ASTM E 1886/E 1996 Large Missile Impact, Level D, Wind Zone 4
           4. ASTM E 1886/ E 1996 Cyclic Load Test, plus or minus 75.0 psf design pressure
           5. Not rated for use in HVHZ.
     6. Series 211 Impact sliding glass door XO HVHZ system when tested on a 152 inch (3860.8 mm) by 114 inch (2895.6 mm) sliding glass door unit, shall meet or exceed the following performance tests.
        1. AAMA / WDMA / CSA 101 / I.S.2 / A440: DP 55 structural and water.
           1. Water Penetration Test: ASTM E 331 and ASTM E 547: Water pressure of 8.35 psf = no leakage.
           2. ASTM E1886-05 and ASTM E1996-09
           3. ASTM E 1886/E 1996 Large Missile Impact, Level D, Wind Zone 4 ASTM E 1886/ E 1996 Cyclic Load Test, plus or minus 65.0 psf design pressure
           4. TAS 201-94 Large Missile Impact Test, Level D, Wind Zone 4
           5. TAS 202-94 Uniform Static Air Pressure, plus or minus 55.14 psf design pressure, 8.25 psf water
           6. TAS 203-94 penetration. Cyclic Pressure loading plus or minus 65.0 psf design pressure.
           7. Rated to be used in the HVHZ.
  2. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. 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.
     3. 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.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected in this specification.

* + 1. Selection Samples: For each finished product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. 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.
    3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
    4. 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. QUALITY ASSURANCE
  2. 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.
     1. Installer Qualifications: Documented experience in performing work of this Section who has specialized in installation of work similar to that required for this project.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. 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. DELIVERY, STORAGE, AND HANDLING
     1. Store products in manufacturer's unopened packaging until ready for installation.
     2. Protect factory finishes from damage, precipitation and construction materials until ready for installation.
     3. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
  2. SEQUENCING
     1. 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.
     2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  3. PROJECT CONDITIONS
     1. 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.
  4. WARRANTY
     1. 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.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Centor, which is located at: 966-130 Corporate Blvd.; Aurora, IL 60502; Tel: 630-957-1000; Fax: 630-957-1001; Email: [request info (mail@centorarchitectural.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Centor&coid=46644&rep=&fax=630-957-1001&message=RE:%20Spec%20Question%20(08495cen):%20%20&mf=); Web: <http://centor.com/us>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required for the project requirements. Delete the paragraphs that are not applicable.

* 1. FOLDING DOORS
     1. 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:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the one not required. Contact manufacturer for sizes to fit your performance requirements.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Size:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
      2. Hardware:
         1. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
         2. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
      3. Door handles:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the others.

* + - * 1. Design: Stuttgart
        2. Design: Luzern

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Satin Nickel
        2. Finish: Oil Rubbed Bronze
      1. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single handed operation.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Keyed
        2. Non-keyed
        3. Concealed aluminum hinges and hardware (other than handles):

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Brushed stainless.
        2. Finish: Black anodized.

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional screen paragraph if required and delete if not required.

* + - 1. 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.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Standard weave
        2. Tight weave

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional shade paragraph if required and delete if not required.

* + - 1. Shades: Tested to be free of harmful chemical in accordance with Oeko-Tex Standard 100. Retractable Polyester shade with Teflon fabric protector:

\*\* NOTE TO SPECIFIER \*\* Select one of the following three paragraphs and delete the others.

* + - * 1. Color and pattern: As indicated in Color Schedule on Drawings.
        2. Color and pattern: As selected by Architect from manufacturer's standard range.
        3. Color and pattern as follows:

\*\* NOTE TO SPECIFIER \*\* Refer to Centor website for available shade fabric colors and patterns. Select shade pattern, fabric and color from the following paragraphs and delete those not required.

* + - * 1. Pattern: Boston:

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Marshmallow

Color: Quartz

Color: Stone

Color: Linen

Color: Silver

Color: Shark

Color: Charcoal

Color: Mist

* + - * 1. Pattern: Tuscany

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

Color: Parchment

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Eggshell

Color: Ash

Color: Charcoal

Granite

Color: Linen

Color: Silver

Color: Pewter

\*\* NOTE TO SPECIFIER \*\* Select double or triple glazing required from the following three glazing paragraphs and delete those not required. Laminated glass is required for Impact Rated Systems. Custom glass packages with laminates, tints, patterned glass and Krypton gas fill are available on request. Special glass packages include PPG and Guardian where the visual matching of coatings is required.

* + - 1. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
         1. Double Glaze - 1 inch (25.4 mm) Thickness:

Exterior Clear, Interior Clear, Gas No, Spacer bar AL

Exterior Clear, Interior Clear , Gas Yes, Spacer bar SS

Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS

* + - * 1. Triple Glaze - 1-1/4 inch (32 mm) Thickness

Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS

* + - 1. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
         1. Interior Wood:.

\*\* NOTE TO SPECIFIER \*\* Select one of the following wood finish paragraphs and delete those not required.

Unfinished Unfinished Cherry

Unfinished Mahogany

Unfinished Fir

Unfinished Alder

Unfinished White Oak

Primed

\*\* NOTE TO SPECIFIER \*\* Select one of the following aluminum finishes and colors and delete those not required. If more than one finish is required, indicate the locations where each is to be used.

* + - * 1. Exterior Aluminum: Standard thermosetting acrylic resin finish.

Color: Bone White

Color: Artic White

Color: Burnt Sun

Color: Beige

Color: Slate Gray

Color: Sage Brown

Color: Colonial Red

Color: Hartford Green

Color: Quaker Bronze

Color: Black

Color: Custom color as selected by the Architect.

* + - 1. Sill Finishes: Aluminum: Anodized complying with AAMA 611

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the others.

* + - * 1. Color: Clear.
        2. Color: Dark Bronze
        3. Color: Custom color as selected by the Architect.
  1. SWING DOORS
     1. 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:

\*\* NOTE TO SPECIFIER \*\* Select and complete one of the following two paragraphs and delete the one not required. Contact manufacturer for sizes to fit your performance requirements.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Size:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
      2. Hardware:
         1. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
         2. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
      3. Door handles:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the others.

* + - * 1. Design: Stuttgart
        2. Design: Luzern
        3. Design: Kiel

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Satin Nickel
        2. Finish: Oil Rubbed Bronze
      1. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single handed operation.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Keyed
        2. Non-keyed
      1. Hinges: Concealed aluminum hinges and hardware (other than handles):

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Brushed stainless.
        2. Finish: Black anodized.

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional screen paragraph if required and delete if not required.

* + - 1. 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.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Standard weave
        2. Tight weave

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional shade paragraph if required and delete if not required.

* + - 1. 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:

\*\* NOTE TO SPECIFIER \*\* Select one of the following three paragraphs and delete the others.

* + - * 1. Color and pattern: As indicated in Color Schedule on Drawings.
        2. Color and pattern: As selected by Architect from manufacturer's standard range.
        3. Color and pattern as follows:

\*\* NOTE TO SPECIFIER \*\* Refer to Centor website for available shade fabric colors and patterns. Select shade pattern, fabric and color from the following paragraphs and delete those not required.

* + - * 1. Pattern: Boston:

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Marshmallow

Color: Quartz

Color: Stone

Color: Linen

Color: Silver

Color: Shark

Color: Charcoal

Color: Mist

* + - * 1. Pattern: Tuscany

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

Color: Parchment

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Eggshell

Color: Ash

Color: Charcoal

Granite

Color: Linen

Color: Silver

Color: Pewter

\*\* NOTE TO SPECIFIER \*\* Select double or triple glazing required from the following three glazing paragraphs and delete those not required. Laminated glass is required for Impact Rated Systems. Custom glass packages with laminates, tints, patterned glass and Krypton gas fill are available on request. Special glass packages include PPG and Guardian where the visual matching of coatings is required.

* + - 1. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
         1. Double Glaze - 1 inch (25.4 mm) Thickness:

Exterior Clear, Interior Clear, Gas No, Spacer bar AL

Exterior Clear, Interior Clear , Gas Yes, Spacer bar SS

Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS

* + - * 1. Triple Glaze - 1-1/4 inch (32 mm) Thickness

Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS

* + - 1. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
         1. Interior Wood:.

\*\* NOTE TO SPECIFIER \*\* Select one of the following wood finish paragraphs and delete those not required.

Unfinished Cherry

Unfinished Mahogany

Unfinished Fir

Unfinished Alder

White Oak

Primed

\*\* NOTE TO SPECIFIER \*\* Select one of the following aluminum finishes and colors. If more than one finish is required, indicate the locations where each is to be used.

* + - * 1. Exterior Aluminum: Standard thermosetting acrylic resin finish.

Color: Bone White

Color: Artic White

Color: Burnt Sun

Color: Beige

Color: Slate Gray,

Color: Sage Brown

Color: Colonial Red

Color: Hartford Green

Color: Quaker Bronze

Color: Black

Color: Custom color as selected by the Architect.

* + - 1. Sill Finishes: Aluminum: Anodized complying with AAMA 611

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

Color: Clear.

Color: Dark Bronze

Color: Custom color as selected by the Architect.

* + 1. 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:

\*\* NOTE TO SPECIFIER \*\* Select and complete one of the following two paragraphs and delete the one not required. Contact manufacturer for sizes to fit your performance requirements.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Size:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Stiles: Narrow, 3-1/4 inches (85 mm) panel stiles. Panel stiles overlap and align when open.
      2. Hardware:
         1. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
         2. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
      3. Door handles:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the others.

* + - * 1. Design: Stuttgart
        2. Design: Luzern

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Satin Nickel
        2. Finish: Oil Rubbed Bronze
      1. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single-handed operation.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Keyed
        2. Non-keyed
      1. Hinges: Concealed aluminum hinges and hardware other than handles:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Brushed stainless.
        2. Finish: Black anodized.

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional screen paragraph if required and delete if not required.

* + - 1. 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.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Standard weave
        2. Tight weave

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional shade paragraph if required and delete if not required.   
\*\* NOTE TO SPECIFIER \*\* Select one of the following three paragraphs and delete the others.

* + - * 1. Color and pattern: As indicated in Color Schedule on Drawings.
        2. Color and pattern: As selected by Architect from manufacturer's standard range.
        3. Color and pattern as follows:

\*\* NOTE TO SPECIFIER \*\* Refer to Centor website for available shade fabric colors and patterns. Select shade pattern, fabric and color from the following paragraphs and delete those not required.

* + - * 1. Pattern: Boston:

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Marshmallow

Color: Quartz

Color: Stone

Color: Linen

Color: Silver

Color: Shark

Color: Charcoal

Color: Mist

* + - * 1. Pattern: Tuscany

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

Color: Parchment

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Eggshell

Color: Ash

Color: Charcoal

Granite

Color: Linen

Color: Silver

Color: Pewter

\*\* NOTE TO SPECIFIER \*\* Select double or triple glazing required from the following three glazing paragraphs and delete those not required. Laminated glass is required for Impact Rated Systems. Custom glass packages with laminates, tints, patterned glass and Krypton gas fill are available on request. Special glass packages include PPG and Guardian where the visual matching of coatings is required.

* + - 1. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
         1. Double Glaze - 1 inch (25.4 mm) Thickness:

Exterior Clear, Interior Clear, Gas No, Spacer bar AL

Exterior Clear, Interior Clear , Gas Yes, Spacer bar SS

Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS

* + - * 1. Triple Glaze - 1-1/4 inch (32 mm) Thickness

Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS

* + - 1. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
         1. Interior Wood:.

\*\* NOTE TO SPECIFIER \*\* Select one of the following wood finish paragraphs and delete those not required.

Unfinished Cherry

Unfinished Mahogany

Unfinished Fir

Unfinished Alder

White Oak

Primed

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following aluminum finishes. If more than one finish is required, indicate the locations where each is to be used.

* + - * 1. Exterior Aluminum: Standard thermosetting acrylic resin finish.

Color: Bone White

Color: Artic White

Color: Burnt Sun

Color: Beige

Color: Slate Gray,

Color: Sage Brown

Color: Colonial Red

Color: Hartford Green

Color: Quaker Bronze

Color: Black

Color: Custom color as selected by the Architect.

* + - 1. Sill Finishes: Aluminum: Anodized complying with AAMA 611

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

Color: Clear.

Color: Dark Bronze

Color: Custom color as selected by the Architect.

* 1. SLIDING GLASS DOORS
     1. Sliding Glass Doors: Provide XO Sliding Glass 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:

\*\* NOTE TO SPECIFIER \*\* Select and complete one of the following two paragraphs and delete the one not required. Contact manufacturer for sizes to fit your performance requirements.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Panel Size:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs and delete the other.

* + - * 1. \_\_\_\_\_\_\_\_\_\_\_\_.
        2. As indicated on the Drawings.
      1. Maximum Overall Frame Width: 15 feet 7/8 inches (4594 mm).
      2. Maximum Visible Frame Width: 14 feet 4-1/4 inches (4374 mm).
      3. Maximum Frame Height: 9 feet 5-1/2 inches (2884 mm).
      4. Maximum Panel Width: 7 feet 2-18 inches (2187 mm)
      5. Hardware:
         1. Access lock: 5 point lock Euro profile cylinder with Schlage / Kwikset compatible keyway and 90-degree thumb turn on the inside.
         2. Top hung suspension system with Surelock 5 adjustment technology with up to 3/16 inch (5 mm) of vertical and lateral adjustment.
      6. Door handles:

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the others.

* + - * 1. Design: Stuttgart
        2. Design: Luzern

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Satin Nickel
        2. Finish: Oil Rubbed Bronze
      1. Lock: Concealed AutoLatch self-latching magnetic lock purpose-built for the integrated doors and allowing single handed operation.

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Keyed
        2. Non-keyed
      1. Hinges: Concealed aluminum hinges and hardware (other than handles):

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

* + - * 1. Finish: Brushed stainless.
        2. Finish: Black anodized.

\*\* NOTE TO SPECIFIER \*\* Centor Integrated Doors are available with a choice of shades or screens. Select the following optional screen paragraph if required and delete if not required.

* + - 1. 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.

\*\* NOTE TO SPECIFIER \*\* Select one of the following three paragraphs and delete the others.

* + - * 1. Color and pattern: As indicated in Color Schedule on Drawings.
        2. Color and pattern: As selected by Architect from manufacturer's standard range.
        3. Color and pattern as follows:

\*\* NOTE TO SPECIFIER \*\* Refer to Centor website for available shade fabric colors and patterns. Select shade pattern, fabric and color from the following paragraphs and delete those not required.

* + - * 1. Pattern: Boston:

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Marshmallow

Color: Quartz

Color: Stone

Color: Linen

Color: Silver

Color: Shark

Color: Charcoal

Color: Mist

* + - * 1. Pattern: Tuscany

\*\* NOTE TO SPECIFIER \*\* Select one of the fabrics from the following paragraphs and delete those not required.

Fabric: Light-filtering.

Fabric: Blackout.

Color: Parchment

\*\* NOTE TO SPECIFIER \*\* Select one of the colors from the following paragraphs and delete those not required.

Color: Eggshell

Color: Ash

Color: Charcoal

Granite

Color: Linen

Color: Silver

Color: Pewter

\*\* NOTE TO SPECIFIER \*\* Select double or triple glazing required from the following three glazing paragraphs and delete those not required. Laminated glass is required for Impact Rated Systems. Custom glass packages with laminates, tints, patterned glass and Krypton gas fill are available on request. Special glass packages include PPG and Guardian where the visual matching of coatings is required.

* + - 1. Door Glazing: Thickness shall be as required to comply with applicable code. Safety glazing shall fulfill requirements of ANSI Z97.1:
         1. Double Glaze - 1 inch (25.4 mm) Thickness:

Exterior Clear, Interior Clear, Gas No, Spacer bar AL

Exterior Clear, Interior Clear , Gas Yes, Spacer bar SS

Exterior Cardinal 272, Interior Clear, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Interior Clear, Gas Yes, Spacer bar SS

* + - * 1. Triple Glaze - 1-1/4 inch (32 mm) Thickness

Exterior Cardinal 272, Center Clear, Interior Cardinal 272, Gas Yes, Spacer bar SS

Exterior Cardinal 366, Center Clear, Interior Cardinal 366, Gas Yes, Spacer bar SS

* + - 1. Door Finishes: Doors feature aluminum-wood clad design with textured wood on the inside and durable aluminum outside:
         1. Interior Wood:.

\*\* NOTE TO SPECIFIER \*\* Select one of the following wood finish paragraphs and delete those not required.

Unfinished White Oak

Unfinished Mahogany

Unfinished Fir

Unfinished Unfinished Cherry

Unfinished Alder

Primed

\*\* NOTE TO SPECIFIER \*\* Select one of the following aluminum finishes and colors. If more than one finish is required, indicate the locations where each is to be used.

* + - * 1. Exterior Aluminum: Standard thermosetting acrylic resin finish.

Color: Bone White

Color: Artic White

Color: Burnt Sun

Color: Beige

Color: Slate Gray,

Color: Sage Brown

Color: Colonial Red

Color: Hartford Green

Color: Quaker Bronze

Color: Black

Color: Custom color as selected by the Architect.

* + - 1. Sill Finishes: Aluminum: Anodized complying with AAMA 611

\*\* NOTE TO SPECIFIER \*\* Select one of the following paragraphs and delete the other.

Color: Clear.

Color: Dark Bronze

Color: Custom color as selected by the Architect.

* 1. MATERIALS
     1. 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.
     2. 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.

\*\* NOTE TO SPECIFIER \*\* Verify with manufacturer if internal reinforcing is required based on framing material, structure, size and configuration.

* + 1. 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.
    2. 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.
    3. Setting Blocks, Edge Blocks, and Spacers: As required by manufacturer and compatible with insulated glass where required.
    4. Structural Glazing Sealant: GE Silpruf; black.
    5. Perimeter Sealant: GE Silpruf; color to match framing finish if available; otherwise color as selected from manufacturer's standard range.
    6. 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.
    7. Accessories: Provide accessories as scheduled to achieve design intent and environmental control.
  1. FABRlCATlON
     1. 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.
     2. Welding:
        1. Comply with recommendations of American Welding Society.
        2. Grind exposed welds smooth and flush with adjacent surfaces before finishing; restore mechanical finish.

\*\* NOTE TO SPECIFIER \*\* Delete the following if internal reinforcing is not required for this project.

* + 1. 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.
    2. 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.
    3. 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.
    4. Reinforce components at anchorage and support points, at joints, and at attachment points for interfacing work.
    5. Glass: Accurately size glass to fit openings allowing clearances following recommendations of "Glazing Manual" published by Flat Glass Marketing Association.
    6. Cut glass clean and carefully. Nicks and damaged edges will not be accepted. Replace glass that has damaged edges.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Verify openings are ready to receive work and dimensions and clearances are as indicated on the approved shop drawings.
      3. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. 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.
      3. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
      3. Provide attachments and shims to permanently fasten system to building structure.
      4. Maintain dimensional tolerances and alignment with adjacent Work.
      5. Anchor securely in place, allowing for required movement, including expansion and contraction.
      6. Install glazing and sealants in accordance with manufacturer's instructions without exception, including surface preparations.
      7. Set sill members in bed of sealant. Set other members with internal sealants to provide weathertight construction.
      8. Install flashings, closures, corners, and other accessories as required or detailed.
      9. Clean surfaces and install sealant in accordance with sealant manufacturer's instructions and structure manufacturer's guidelines.
   4. ADJUSTING AND CLEANING
      1. 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.
      2. 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.
      3. 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.
      4. Remove from project site and legally dispose of construction debris associated with this work.
   5. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.
   6. SCHEDULES

\*\* NOTE TO SPECIFIER \*\* Retain Paragraph below if required to suit project requirements. Identify products by name on the Drawings or use this paragraph to define the location of each type of material to be used. The following are some examples of schedule references. Edit as required to suit project or delete and identify products on the Drawings.

* + 1. :
    2. :

END OF SECTION