SECTION 08560

VINYL WINDOWS

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\*\* NOTE TO SPECIFIER \*\* Harvey Building Products ; Windows, Doors, and Porch Enclosures.  
This section is based on the products of Harvey Building Products , which is located at:  
1400 Main St.  
Waltham, MA 02451-1689  
Toll Free Tel: 800-822-0437  
Email: [request info (architects@harveybp.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Harvey+Building+Products+&coid=32985&rep=&fax=&message=RE:%20Spec%20Question%20(08560har):%20%20&mf=)  
Web: <https://www.harveywindows.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos32/arc32985.html) ] for additional information.  
Millions of homes, businesses and structures have been built and renovated with Harvey Windows + Doors, a leading fenestration product manufacturer of Harvey Building Products, based in the Northeastern part of the United States. We're proud to stand alongside thousands of architects, specifiers, developers and other professionals who care as much about the quality of their work as they do about the quality of our products. Harvey offers a complete portfolio of customizable vinyl & wood window and door products. Our windows are all designed in-house with options available to meet the requirements of most residential, restoration, renovation, multi-family or light commercial projects.  
See our SpecWizard: [Click Here](https://www.arcat.com/specwizard/08560har/index.htm)

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Vinyl windows for new construction.
    2. Vinyl commercial windows.
    3. Sliding patio doors.
    4. Vinyl replacement windows.
  1. RELATED SECTIONS

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

* + 1. Section 03300 - Cast-In-Place Concrete.
    2. Section 04810 - Unit Masonry Assemblies.
    3. Section 06100 - Rough Carpentry.
    4. Section 06200 - Finish Carpentry.
    5. Section 07460 - Siding.
  1. REFERENCES

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

* + 1. American Architectural Manufacturers Association (AAMA):
       1. AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, A440-11 and A440-17 - NAFS - North American Fenestration Standard Specification for windows, doors, and skylights.
       2. AAMA 701/702 - Combined Voluntary Specifications for Pile Weather strip and Replaceable Fenestration Weather seals.
       3. AAMA 902 - Voluntary Specification for Sash Balances.
    2. ASTM International (ASTM):
       1. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
       2. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
       3. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.
       4. ASTM E2190 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units.
       5. ASTM F588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.
    3. NFRC 100/200/500 - Procedures for Determining Fenestration Product U-Factors, Solar Heat Gain Coefficient (SHGc), and Visible Transmittance at Normal Incidence (VT).
  1. SUBMITTALS
     1. Submit under provisions of Section 01300.
     2. Product Data: Submit the following documents for each type of window.
        1. Manufacturer's technical data, product descriptions and installation guides.
        2. Elevation for each style window specified indicating its size, glazing type, muntin type and design.
        3. Manufacturer's head, jamb and sill details for each window type specified.
     3. Verification Samples: Operating units of each style window specified.
        1. Verification samples may be operating scaled-down mock-ups of actual-size units.
        2. Operating hardware such as balances, sash locks and weather-stripping.
        3. Verification samples will be returned to manufacturer's representative at project closeout.
     4. Test Reports: Certified independent testing agency reports indicating window units meet or exceed specified performance requirements.
  2. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum ten years producing vinyl (PVC) windows.
     2. Installer Qualifications: Minimum 2 years of experience on projects of similar size and acceptable to window manufacturer.
     3. Source Limitations: Obtain window units from one manufacturer through a single source.
     4. Testing: Provide window units independently tested and found to be in compliance with AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, A440-11 or A440-17 performance standards.
     5. Code Compliance: Provide windows that are labeled in compliance with the jurisdiction having authority in the location of the 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 and color are approved by Architect.
       3. Rebuild mock-up area as required to produce acceptable work.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Deliver windows to project site in undamaged condition; handle windows to prevent damage to components and to finishes.
     2. Store products in manufacturer's unopened packaging, out of direct sunlight or high temperature locations, until ready for installation.
  2. 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 recommended limits.
  3. WARRANTY
     1. Manufacturer's standard warranty against defects in workmanship and materials.

\*\* NOTE TO SPECIFIER \*\* Select project type. Delete 1 of the next 2 paragraphs. Select paragraph 1 for Residential applications or Paragraph 2 for commercial applications.

* + - 1. Limited Lifetime Limited Transferable warranty on extruded solid vinyl member and component parts. Insulated glass is warranted against material obstruction of transparency resulting from film formation or dust collection on the interior glass surfaces for a period of twenty (20) years. Consult warranty for complete details.
      2. Limited 10 Year warranty period for commercial project work such as apartments, housing authorities and other buildings not used by individual homeowners, covering all vinyl, glass and component parts. Consult warranty for complete details.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Harvey Building Products , which is located at: 1400 Main St.; Waltham, MA 02451-1689; Toll Free Tel: 800-822-0437; Email: [request info (architects@harveybp.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Harvey+Building+Products+&coid=32985&rep=&fax=&message=RE:%20Spec%20Question%20(08560har):%20%20&mf=); Web: <https://www.harveywindows.com>

\*\* NOTE TO SPECIFIER \*\* Delete 1 of the next 2 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 01600. Substitutions must be submitted to Architect two weeks prior to bid opening.

\*\* NOTE TO SPECIFIER \*\* Delete window types not required.

* 1. NEW CONSTRUCTION TRIBUTE DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.65 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Operable sash: 0.070 inch (1.8 mm) thick. Fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required. White is standard. Custom Colors available.

* + - 1. Color: White Vinyl.
      2. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      3. Color: White Vinyl with Black Exterior Finish - Painted.
      4. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      5. Glazing: Insulating glass units secured to sash frame using a silicone sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      6. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings that lock in place when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
      7. Two low-profile sash locks operate tilt release latches allowing sash to tilt in.
      8. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required.

* + - 1. Screens: Extruded aluminum full screen with 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      2. Screens: Extruded aluminum locking half screen with 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      3. Screens: Premium FlexScreen.
      4. Screens: Premium FlexScreen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: H-LC35 (DP 35) - Test Size: 48 inches x 84 inches (1219 mm x 2134 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2 /A440-17.
      2. Structural Rating: H-LC 50 (DP 50) - Test Size: 42 inches x 77 inches (1067 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2 /A440-17.
      3. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X (TG) No Grids: FOAM U-Factor 0.21/ R-Value 4.76/ SHGc 0.24/ VT 0.44.
        2. ThermaLock 3X (TG) With Grids: Foam U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.39.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.46/ VT 0.57.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.42/ VT 0.50.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.29/ VT 0.52.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.26/ VT 0.46.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.20/ VT 0.46.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.18/ VT 0.41.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.20/ VT 0.47.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.18/ VT 0.42.
        11. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.30/ VT 0.53.
        12. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.27/ VT 0.47.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.48/ VT 0.58.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.43/ VT 0.51.
  1. NEW CONSTRUCTION SLIMLINE SINGLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Sash: 0.065 inch (1.7 mm) thick. Fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin (Only available with receiver pocket).
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.
      4. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar system shall be designed to positively interlock, to provide accurate alignment of the sash and the frame during installation and operation.
      5. Sash Locks: Knife type locks anchored with screws. Double locks when openings are 30 1/2 inches (774 mm) wide and greater.
      6. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option if not required or delete both if screens are not required.

* + - 1. Screens: FlexScreen half screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: Rolled Form aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating options not required.

* + - 1. Structural Rating: H-LC25 (DP25) - Test Size: 54 inches x 77 inches (1371 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC30 (DP30) - Test Size: 46 inches x 77 inches (1168 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: H-LC50 (DP50) - Test Size: 40 inches x 63 inches (1016 mm x 1600 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC rating option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 34.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.49/ VT 0.60.
        2. SunGain PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.44/ VT 0.54.
        3. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.31/ VT 0.56.
        4. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.19/ VT 0.44.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.50.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.20/ VT 0.45.
        9. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.57.
        10. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.28/ VT 0.50.
        11. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.51/ VT 0.62.
        12. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
  1. NEW CONSTRUCTION SLIMLINE DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame and Sash: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete sliding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J with L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.
      4. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar system shall be designed to positively interlock, to provide accurate alignment of the sash and the frame during installation and operation.
      5. Sash Locks: Knife type locks anchored with screws. Double locks when openings are 30 1/2 inches (774 mm) wide and greater.
      6. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required or delete all if screens are not required.

* + - 1. Screens: FlexScreen half screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: Rolled Form aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      4. Screens: FlexScreen full screen. 18 x 16 charcoal finish fiberglass mesh.
      5. Screens: Extruded aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      6. Screens: Rolled Form aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: H-LC25 (DP25) - Test Size: 54 inches x 77 inches (1371 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC30 (DP30) - Test Size: 46 inches x 77 inches (1168 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: H-LC50 (DP50) - Test Size: 37 inches x 72 inches (939 mm x 1828 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Structural Rating: H-LC50 (DP50) - Test Size: 40 inches x 63 inches (1016 mm x 1600 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      5. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission option nit required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 34.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.49/ VT 0.60.
        2. SunGain PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.44/ VT 0.54.
        3. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.31/ VT 0.56.
        4. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.19/ VT 0.44.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.50.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.20/ VT 0.45.
        9. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.57.
        10. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.28/ VT 0.50.
        11. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.51/ VT 0.62.
        12. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
  1. NEW CONSTRUCTION V100 SINGLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Sash: 0.065 inch (1.7 mm) thick. Fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin (Only available with receiver pocket).
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.
      4. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar system shall be designed to positively interlock, to provide accurate alignment of the sash and the frame during installation and operation.
      5. Sash Locks: Knife type locks anchored with screws. Double locks when openings are 30 1/2 inches (774 mm) wide and greater.
      6. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screen options not required.

* + - 1. Screens: Rolled Form aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: FlexScreen half screen. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating options not required.

* + - 1. Structural Rating: H-LC25 (DP25) - Test Size: 54 inches x 77 inches (1371 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC30 (DP30) - Test Size: 46 inches x 77 inches (1168 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: H-LC50 (DP50) - Test Size: 40 inches x 63 inches (1016 mm x 1600 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Structural Rating: H-LC50 (DP50) - Test Size: 37 inches x 72 inches (939 mm x 1828 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      5. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.
      6. Sound Transmission Class (STC): 26.
      7. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.49/ VT 0.60.
        2. SunGain PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.44/ VT 0.54.
        3. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.31/ VT 0.56.
        4. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.19/ VT 0.44.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.50.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.20/ VT 0.45.
        9. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.57.
        10. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.28/ VT 0.50.
        11. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.51/ VT 0.62.
        12. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
  1. NEW CONSTRUCTION CLASSIC DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners. Sash: 0.060 inch (1.5 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete sliding attachment options not required .

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and exterior glazing bead. Complies with ASTM E2190.
      7. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
      8. Sash Locks: Cam type lock anchored with screws. Double locks when openings are 30 1/2 inches (774 mm) wide and greater.
      9. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screen options not required.

* + - 1. Screens: Extruded aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum locking half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: FlexScreen full screen.
      4. Screens: FlexScreen half screen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural rating H-LC40 (DP40) - Test Size: 48 inches x 84 inches (1219 mm x 2134 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural rating H-LC50 (DP50) - Test Size: 42 inches x 77 inches (1067 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission option nit required.

* + - 1. Sound Transmission Class (STC): 27.
      2. Sound Transmission Class (STC): 34.
      3. Thermal Transmittance: The following values are in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.25/ VT 0.46.
        2. ThermaLock 3X With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.41.
        3. ThermaLock RS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.30/ VT 0.54.
        4. ThermaLock RS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.27/ VT 0.48.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.28/ R-Value 4.16/ SHGc 0.19/ VT 0.43.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.49.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.19/ VT 0.44.
        9. ThermaLock No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.29/ VT 0.49.
        10. ThermaLock With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.26/ VT 0.44.
        11. ThermaGuard No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.31/ VT 0.55.
        12. ThermaGuard With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.28/ VT 0.49.
        13. SunGain No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.50/ VT 0.60.
        14. SunGain With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.45/ VT 0.54.
  1. NEW CONSTRUCTION CASEMENT WINDOWS
     1. Construction:
        1. Frame and Sash: 0.070 inch (1.8 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      7. Hinges: Maxim 14 series.
      8. Sash Locks: Sequentially locking multi-point type with single handle actuator.
      9. Operator: Encore series.
      10. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.
      3. Screens: FlexScreen.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:
       1. Structural Rating: C-55 (DP 55) Test Size: 36 inches x 80 inches (914 mm x 2032 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 29.
      3. Sound Transmission Class (STC): 34.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.21/ VT 0.39.
        2. ThermaLock 3X With Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.20/ VT 0.35.
        3. SunGain PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.42/ VT 0.50.
        4. SunGain PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.38/ VT 0.45.
        5. ThermaLock RS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.26/ VT 0.46.
        6. ThermaLock RS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.24/ VT 0.42.
        7. SunShield PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.18/ VT 0.41.
        8. SunShield PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.16/ VT 0.37.
        9. SunShield No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.18/ VT 0.42.
        10. SunShield With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.17/ VT 0.38.
        11. ThermaLock No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.25/ VT 0.42.
        12. ThermaLock With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.23/ VT 0.38.
        13. ThermaGuard No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.27/ VT 0.47.
        14. ThermaGuard With Grids: U-Factor 0.26 / R-Value 3.84/ SHGc 0.24/ VT 0.43.
        15. SunGain No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.43/ VT 0.52.
        16. SunGain With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.39/ VT 0.47.
  1. NEW CONSTRUCTION AWNING WINDOWS
     1. Construction:
        1. Frame and Sash: 0.070 inch (1.8 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      7. Hinges: Maxim 13 series.
      8. Sash Locks: Maxim 24 Series single point locks.
      9. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.
      3. Screens: FlexScreen.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating options not required

* + - 1. Structural Rating: AP-LC40 (DP40) - Test Size: 60 inches x 42 inches (1524 mm x 1067 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
      2. Structural Rating: AP-LC40 (DP 40). Test Size: 48 inches x 58 inches (1219 mm x 1473 mm).
      3. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 29.
      3. Sound Transmission Class (STC): 34.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.39.
        2. ThermaLock 3X With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.20/ VT 0.35.
        3. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.42/ VT 0.50.
        4. SunGain PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.38/ VT 0.45.
        5. ThermaLock RS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.26/ VT 0.46.
        6. ThermaLock RS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.24/ VT 0.42.
        7. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.18/ VT 0.41.
        8. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.16/ VT 0.37.
        9. SunShield No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.18/ VT 0.42.
        10. SunShield With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.17/ VT 0.38.
        11. ThermaLock No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.25/ VT 0.42.
        12. ThermaLock With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.23/ VT 0.38.
        13. ThermaGuard No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.27/ VT 0.47.
        14. ThermaGuard With Grids: U-Factor 0.27 / R-Value 3.70/ SHGc 0.24/ VT 0.43.
        15. SunGain No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.43/ VT 0.52.
        16. SunGain With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.39/ VT 0.47.
  1. NEW CONSTRUCTION HOPPER WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC), Frame corners miter cut and fusion welded. Sash: 0.065 inch (1.7 mm) thick with mechanically fastened corners.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment option not required.

* + - 1. Siding Attachment: Snap-on applied 3/4 inch (20 mm) "J" fin.
      2. Siding Attachment: Snap-on applied "L" fin.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units shall be channel glazed and secured to sash frame using a sealant in corners. Complies with ASTM E2190.
      7. Hinges: Stainless Steel Maxim 13 series.
      8. Sash Locks: Knife type. Double locks when openings are 30 3/4 inches (781 mm) and wider.
      9. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.

\*\* NOTE TO SPECIFIER \*\* Delete grids option not required

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:
       1. Structural Rating: AP-R-15(DP15) - Test Size: 48 inches x 32 inches (1219 mm x 813 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC rating option not required.

* + - 1. Sound Transmission Class (STC): 27.
      2. Sound Transmission Class (STC): 33.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.23/ VT 0.42.
        2. ThermaLock 3X With Grids: U-Factor 0.23/ R-Value 4.54/ SHGc 0.21/ VT 0.38.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.45/ VT 0.54.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.41/ VT 0.49.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.26/ VT 0.45.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.19/ VT 0.44.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.18/ VT 0.40.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.19/ VT 0.45.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.18/ VT 0.41.
        11. ThermaGuard No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.28/ VT 0.50.
        12. ThermaGuard With Grids: U-Factor 0.30 / R-Value 3.33/ SHGc 0.26/ VT 0.45.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.42/ VT 0.50.
  1. NEW CONSTRUCTION ROLLING WINDOWS
     1. Construction:
        1. Frame: 0.090 inch (2.3 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Sash: 0.080 inch (2 mm) thick. Miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (20 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J with L adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and exterior dual durometer glazing bead. Complies with ASTM E2190.
      7. Sash Locks: Cam type.
      8. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.
      3. Screens: FlexScreen.
      4. Screens: FlexScreen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating and product option not required.

* + - 1. Structural Rating: HS-LC35 (DP 35) - Test Size: 72 inches x 62 1/2 inches (1829 mm x 1588 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: HS-LC35 (DP 25) - Test Size: 120 inches x 62 1/2 inches (3048 mm x 1588 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11.
      3. Forced Entry: Type A, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission option not required.

* + - 1. Sound Transmission Class (STC): 26 Two Lite.
      2. Sound Transmission Class (STC): 33 Two Lite.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.25/ VT 0.46.
        2. ThermaLock 3X With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.22/ VT 0.41.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.48/ VT 0.59.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.43/ VT 0.53.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.30/ VT 0.55.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.27/ VT 0.49.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.21/ VT 0.48.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.19/ VT 0.43.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.21/ VT 0.49.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.19/ VT 0.44.
        11. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.55.
        12. ThermaGuard With Grids: U-Factor 0.29 / R-Value 3.44/ SHGc 0.28/ VT 0.49.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.50/ VT 0.61.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.45/ VT 0.54.
  1. NEW CONSTRUCTION PICTURE WINDOWS
     1. Construction:
        1. Frame: 0.075 inch (1.9 mm) wall thick polyvinyl chloride (PVC). Miter cut and fusion welded corners.
        2. Siding Attachment: With or without extension jamb receiver pocket.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - * 1. Integral 13/16 inch (21 mm) "J" fin pocket.
        2. Integral L-fin. Only available with receiver pocket.
        3. L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a sealant in the corners and glazing bead. Complies with ASTM E2190.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:
       1. Structural Rating: F-C55 (DP55) - Test Size: 72 inches x 72 inches (1829 mm x 1829 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11.
       2. Forced Entry: Type D, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC class option not required.

* + - 1. Sound Transmission Class (STC): 29.
      2. Sound Transmission Class (STC): 32.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.19/ R-Value 5.26/ SHGc 0.26/ VT 0.49.
        2. ThermaLock 3X With Grids: U-Factor 0.20/ R-Value 5.00/ SHGc 0.24/ VT 0.43.
        3. SunGain PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.51/ VT 0.63.
        4. SunGain PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.46/ VT 0.56.
        5. ThermaLock RS No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.32/ VT 0.58.
        6. ThermaLock RS With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.29/ VT 0.51.
        7. SunShield PLUS No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.51.
        8. SunShield PLUS With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.46.
        9. ThermaLock No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.30/ VT 0.52.
        10. ThermaLock With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.47.
        11. SunShield No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.22/ VT 0.52.
        12. SunShield With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.20/ VT 0.46.
        13. ThermaGuard No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.32/ VT 0.59.
        14. ThermaGuard With Grids: U-Factor 0.26 / R-Value 3.84/ SHGc 0.29/ VT 0.52.
        15. SunGain No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.53/ VT 0.64.
        16. SunGain With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.47/ VT 0.57.
  1. NEW CONSTRUCTION DESIGNER SHAPES WINDOWS
     1. Construction:
        1. Frame: Nominal 0.1 inch (2.5 mm) wall thickness polyvinyl chloride (PVC), Miter cut and fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete siding attachment options not required.

* + - 1. Siding Attachment: Integral 13/16 inch (21 mm) "J" fin pocket.
      2. Siding Attachment: L-fin (Integral J w/ L-adapter).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete paragraph if not required.

* + - 1. Grids: Colonial contour grids between glass (GBG) dividers.
    1. Performance:
       1. Structural Rating: F-C50 (DP50) - Test Size: 78 inches x 85 1/4 inches (1981 mm x 2165 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type D, Grade 10 in accordance with ASTM F588.
       3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS DSB No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.55/ VT 0.68.
        2. SunGain PLUS DSB With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.49/ VT 0.61.
        3. ThermaLock RS DSB No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.32/ VT 0.60.
        4. ThermaLock RS DSB With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.29/ VT 0.54.
        5. SunShield PLUS DSB No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.23/ VT 0.55.
        6. SunShield PLUS DSB With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.50.
        7. SunShield DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.24/ VT 0.57.
        8. SunShield DSB With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.22/ VT 0.51.
        9. ThermaLock DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.30/ VT 0.52.
        10. ThermaLock DSB With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.27/ VT 0.47.
        11. ThermaGuard DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.32/ VT 0.61.
        12. ThermaGuard DSB With Grids: U-Factor 0.27 / R-Value 3.70/ SHGc 0.29/ VT 0.55.
        13. SunGain DSB No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.56/ VT 0.69.
        14. SunGain DSB With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.51/ VT 0.62.
  1. NEW CONSTRUCTION WINDOW ACCESSORlES

\*\* NOTE TO SPECIFIER \*\* Mullions are optional. Delete paragraph if not required.

* + 1. Mullions:

\*\* NOTE TO SPECIFIER \*\* Common mulled units are available up to 130 inches wide. Delete mullion option not required.

* + - 1. Common Jamb: Windows are contained within single frame and separated by a common mull post.
      2. Non-Structural Combination Mullion: horizontal or vertical members, factory or field applied.
    1. Casings: Factory installed casing options.

\*\* NOTE TO SPECIFIER \*\* Delete casing options not required.

* + - 1. Brick Mold: 2-3/8 inch (60 mm). Nominal Thickness: 0.080 inches (2 mm); 4 Sides.
      2. Brick Mold: 2-3/8 inch (60 mm). Nominal Thickness: 0.080 inches (2 mm); with 1 inch (25 mm) sill nosing.
      3. Flat Casing: 3 inch (76 mm). Nominal Thickness: 0.080 inches (2 mm); 4 sides.
      4. Flat Casing: 3 inch (76 mm). Nominal Thickness: 0.080 inches (2 mm); with 1 inch (25 mm) sill nosing.
    1. Extension Jambs:

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required.

* + - 1. Finish: Pre-Primed.
      2. Finish: Clear Pine.

\*\* NOTE TO SPECIFIER \*\* Delete depth options not required. Custom depths available up to 7 1/4 inches (184 mm).

* + - 1. Depth: 4-9/16 inch (116 mm) depth (2 x 4 wall construction).
      2. Depth: 6-9/16 inch (167 mm) depth (2 x 6 wall construction).
      3. Depth (inch/mm): \_\_\_\_\_\_\_\_\_\_.
  1. SLIDING PATIO DOORS (Standard Size)
     1. Construction:
        1. Frame and sash: 0.080 inch (2 mm) thick polyvinyl chloride (PVC). Frame corners mechanically fastened/ Jamb Depth: 4-9/16 inches (116 mm). Fin is integral to master frame. Sash corners are miter cut and fusion welded.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      4. Glazing: 1 inch (25 mm) Nominal thickness Insulating glass units secured to sash frame using a dual durometer glazing bead. Complies with ASTM E2190.

\*\* NOTE TO SPECIFIER \*\* Delete locks and hardware option not required.

* + - 1. Locks and Hardware: Dual point Lock.
      2. Locks and Hardware: Multi-point locking system.

\*\* NOTE TO SPECIFIER \*\* Delete if corrosion resistant hardware is not required.

* + - * 1. Corrosion resistant stainless steel rollers.
      1. Weather stripping: In compliance with AAMA 701.2.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) Exterior Grid Package with GBG.
      4. Grids: 1 inch (25 mm) Exterior Grid Package with GBG.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating and product options not required.

* + - 1. Structural Rating: SD-R35 (DP35) - Test Size: 96 inches x 80 inches (2438 mm x 2032 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: SD-R25 (DP25) - Test Size: 96 inches x 96 inches (2438 mm x 2438 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: SD-R35 (DP35) - Test Size: 143 3/4 inches x 79 5/8 inches 3-Lite OXO (3651 mm x 2022 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Forced Entry: Type A, Grade 10 in accordance with ASTM F 842.
      5. Sound Transmission Class (STC): 29.
      6. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. Low-E No Grids: U-Factor 0.32/ R-Value 3.12/ SHGc 0.27/ VT 0.51.
        2. Low-E With Grids: U-Factor 0.32/ R-Value 3.12/ SHGc 0.24/ VT 0.45.
        3. ThermaLock Low-E/Argon No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.27/ VT 0.51.
        4. ThermaLock Low-E/Argon With Grids: U-Factor 0.29 / R-Value 3.44/ SHGc 0.24 / VT 0.45.
        5. Blinds Between Glass 2X Low-E No Grids: U-Factor 0.29/ R-Value 3.33/ SHGc 0.25/ VT 0.47.
        6. ThermaLock 2X Low-E/Argon No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.25/ VT 0.44.
        7. ThermaLock 2X Low-E/Argon With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.22/ VT 0.38.
        8. ThermaLock TG 2X Low-E /Argon No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.23/ VT 0.40.
        9. ThermaLock TG 2X Low-E /Argon With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.22/ VT 0.35.
        10. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.24/ VT 0.56.
        11. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.22/ VT 0.51.
  1. TRIBUTE LIGHT COMMERCIAL SERIES DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Operable Sash: 0.070 inch (1.8 mm) thick. Fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete 1 of the next 2 paragraphs.

* + - * 1. New construction frame with optional jamb receiver.
        2. Replacement frame.

\*\* NOTE TO SPECIFIER \*\* White is standard. Custom Colors are available. Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      3. Color: White Vinyl with Black Exterior Finish - Painted.
      4. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      5. Glazing: Insulating glass units secured to sash frame using a silicone sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      6. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings that lock in place when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
      7. Locks: Two low-profile sash locks anchored with screws driven through the sash rail and into extruded aluminum.
      8. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required.

* + - 1. Screens: Extruded aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum locking half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: Extruded aluminum full screen. 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      4. Screens: Extruded aluminum locking half screen. 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      5. Screens: Premium FlexScreen full screen.
      6. Screens: Premium FlexScreen full screen. Exterior Painted.
      7. Screens: Premium FlexScreen half screen.
      8. Screens: Premium FlexScreen half screen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: H-C40 (DP 40) - Test Size: 54 inches x 91 inches (1372 mm x 2311 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2 /A440-05.
      2. Structural Rating: H-LC 50 (DP 50) - Test Size: 42 inches x 77 inches (1067 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2 /A440-05.
      3. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X (TG) No Grids: FOAM U-Factor 0.24/ R-Value 4.16/ SHGc 0.24/ VT 0.44.
        2. ThermaLock 3X (TG) With Grids: Foam U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.39.
        3. SunGain PLUS No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.46/ VT 0.57.
        4. SunGain PLUS With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.42/ VT 0.50.
        5. ThermaLock RS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.29/ VT 0.52.
        6. ThermaLock RS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.26/ VT 0.46.
        7. SunShield PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.20/ VT 0.46.
        8. SunShield PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.18/ VT 0.41.
        9. SunShield No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.20/ VT 0.47.
        10. SunShield With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.18/ VT 0.42.
        11. ThermaGuard No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.30/ VT 0.53.
        12. ThermaGuard With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.27/ VT 0.47.
        13. SunGain No Grids: U-Factor 0.31/ R-Value 3.22/ SHGc 0.48/ VT 0.58.
        14. SunGain With Grids: U-Factor 0.31/ R-Value 3.22/ SHGc 0.43/ VT 0.51.
  1. REPLACEMENT TRIBUTE DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Contoured Sash Design: 0.070 inch (1.8 mm) thick. Fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* White is standard. Custom Colors are available. Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      3. Color: White Vinyl with Black Exterior Finish - Painted.
      4. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      5. Glazing: Insulating glass units are silicone glazed with an exterior glazing bead. Complies with ASTM E2190.
      6. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings that lock in place when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
      7. Two Sash Locks: unique low profile locks operate the tilt release latches allowing the sash to tilt-in.
      8. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required.

* + - 1. Screens: Extruded aluminum locking half screen. 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      2. Screens: Extruded aluminum full screen. 16 x 16 VIEWS (Virtually Invisible Enhanced Window Screen) mesh.
      3. Screens: Premium FlexScreen full screen.
      4. Screens: Premium FlexScreen full screen. Exterior Painted.
      5. Screens: Premium FlexScreen half screen.
      6. Screens: Premium FlexScreen half screen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: H-LC35 (DP35) - Test Size: 48 inches x 84 inches (1219 mm x 2134 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
      2. Structural Rating: H-LC50 (DP50) - Test Size: 42 inches x 77 inches (1067 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
      3. Forced Entry: Type A, Grade 10 in accordance with ASTM F588-97.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X (TG) No Grids: FOAM U-Factor 0.21/ R-Value 4.76/ SHGc 0.24/ VT 0.44.
        2. ThermaLock 3X (TG) With Grids: Foam U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.39.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.46/ VT 0.57.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.42/ VT 0.50.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.29/ VT 0.52.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.26/ VT 0.46.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.20/ VT 0.46.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.0/ SHGc 0.18/ VT 0.41.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.20/ VT 0.47.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.18/ VT 0.42.
        11. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.30/ VT 0.53.
        12. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.27/ VT 0.47.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.48/ VT 0.58.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.43/ VT 0.51.
  1. REPLACEMENT CLASSIC DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Sash: 0.060 inch (1.5 mm) thick with fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a Silicone sealant exterior glazing bead. Complies with ASTM E2190.
      7. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings that lock in place when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
      8. Sash Locks: Cam type locks anchored with screws. Double locks when openings are 30 1/4 inches (768 mm) wide and greater.
      9. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required.

* + - 1. Screens: Extruded aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum locking half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: FlexScreen full screen.
      4. Screens: FlexScreen half screen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating options not required.

* + - 1. Structural Rating: H-LC40 (DP40) - Test Size: 48 inches x 84 inches (1219 mm x 2134 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC50 (DP50) - Test Size: 42 inches x 77 inches (1067 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 27.
      2. Sound Transmission Class (STC): 34.
      3. Forced Entry: Type A, Grade 10 in accordance with ASTM F588.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.25/ VT 0.46.
        2. ThermaLock 3X With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.41.
        3. ThermaLock RS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.30/ VT 0.54.
        4. ThermaLock RS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.27/ VT 0.48.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.28/ R-Value 4.16/ SHGc 0.19/ VT 0.43.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.49.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.19/ VT 0.44.
        9. ThermaLock No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.29/ VT 0.49.
        10. ThermaLock With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.26/ VT 0.44.
        11. ThermaGuard No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.31/ VT 0.55.
        12. ThermaGuard With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.28/ VT 0.49.
        13. SunGain No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.50/ VT 0.60.
        14. SunGain With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.45/ VT 0.54.
  1. REPLACEMENT SLIMLINE SINGLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC), Miter cut and fusion welded corners. Sash: 0.065 inch (1.7 mm) thick. Fusion welded corners.
        2. Color: White Vinyl.
        3. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.
        4. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar system shall be designed to positively interlock, to provide accurate alignment of the sash and the frame during installation and operation.
        5. Sash Locks: Knife type locks anchored with screws. Double locks when openings are 30 1/4 inches (768 mm) wide and greater.
        6. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required or delete both if screens are not required.

* + - 1. Screens: Extruded aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Rolled Form aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: FlexScreen half screen. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete paragraph if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: H-LC25 (DP25) - Test Size: 54 inches x 77 inches (1371 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC30 (DP30) - Test Size: 46 inches x 77 inches (1168 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: H-LC50 (DP50) - Test Size: 37 inches x 72 inches (939 mm x 1828 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Structural Rating: H-LC50 (DP50) - Test Size: 40 inches x 63 inches (1016 mm x 1600 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      5. Forced Entry: Type A, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 34.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.49/ VT 0.60.
        2. SunGain PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.44/ VT 0.54.
        3. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.31/ VT 0.56.
        4. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.19/ VT 0.44.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.50.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.20/ VT 0.45.
        9. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.57.
        10. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.28/ VT 0.50.
        11. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.51/ VT 0.62.
        12. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
  1. REPLACEMENT SLIMLINE DOUBLE HUNG WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Miter cut and fusion welded corners. Sash: 0.065 inch (1.7 mm) thick. Fusion welded corners.
        2. Color: White Vinyl.
        3. Glazing: Insulating glass units secured to sash frame using a silicone sealant and dual durometer glazing bead. Complies with ASTM E2190.
        4. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar system shall be designed to positively interlock, to provide accurate alignment of the sash and the frame during installation and operation.
        5. Sash Locks: Knife type locks anchored with screws. Double locks when openings are 30 1/4 inches (768 mm) wide and greater.
        6. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens options not required or delete all if screens are not required.

* + - 1. Screens: Extruded aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Rolled Form aluminum half screen. 18 x 16 charcoal finish fiberglass mesh.
      3. Screens: Extruded aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      4. Screens: Rolled Form aluminum full screen. 18 x 16 charcoal finish fiberglass mesh.
      5. Screens: FlexScreen full screen. 18 x 16 charcoal finish fiberglass mesh.
      6. Screens: FlexScreen half screen. 18 x 16 charcoal finish fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete paragraph if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating options not required.

* + - 1. Structural Rating: H-LC25 (DP25) - Test Size: 54 inches x 77 inches (1371 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: H-LC30 (DP30) - Test Size: 46 inches x 77 inches (1168 mm x 1956 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      3. Structural Rating: H-LC50 (DP50) - Test Size: 37 inches x 72 inches (939 mm x 1828 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      4. Structural Rating: H-LC50 (DP50) - Test Size: 40 inches x 63 inches (1016 mm x 1600 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      5. Forced Entry: Type A, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 34.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.49/ VT 0.60.
        2. SunGain PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.44/ VT 0.54.
        3. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.31/ VT 0.56.
        4. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        5. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.21/ VT 0.48.
        6. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.19/ VT 0.44.
        7. SunShield No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.21/ VT 0.50.
        8. SunShield With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.20/ VT 0.45.
        9. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.57.
        10. ThermaGuard With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.28/ VT 0.50.
        11. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.51/ VT 0.62.
        12. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
  1. REPLACEMENT CASEMENT WINDOWS
     1. Construction:
        1. Frame and Sash: 0.070 inch (1.8 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Color: Custom Interior Finish - Painted. As determined by the Architect.
      7. Glazing: Insulating glass units secured to sash frame using a silicone sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      8. Hinges: Maxim 14 series.
      9. Sash Locks: Sequentially locking multi-point type with single handle actuator.
      10. Operator: Encore series.
      11. Weather Stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.
      3. Screens: FlexScreen.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:
       1. Structural Rating: C-55 (DP55) - Test Size: 36 inches x 80 inches (914 mm x 2032 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 29.
      3. Sound Transmission Class (STC): 34.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.21/ VT 0.39.
        2. ThermaLock 3X With Grids: U-Factor 0.21/ R-Value 4.76/ SHGc 0.20/ VT 0.35.
        3. SunGain PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.42/ VT 0.50.
        4. SunGain PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.38/ VT 0.45.
        5. ThermaLock RS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.26/ VT 0.46.
        6. ThermaLock RS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.24/ VT 0.42.
        7. SunShield PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.18/ VT 0.41.
        8. SunShield PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.16/ VT 0.37.
        9. SunShield No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.18/ VT 0.42.
        10. SunShield With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.17/ VT 0.38.
        11. ThermaLock No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.25/ VT 0.42.
        12. ThermaLock With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.23/ VT 0.38.
  1. REPLACEMENT AWNING WINDOWS
     1. Construction:
        1. Frame and Sash: 0.070 inch (1.8 mm) thick polyvinyl chloride (PVC) with miter cut and fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a sealant and rigid PVC glazing bead. Complies with ASTM E2190.
      7. Hinges: Maxim 13 series.
      8. Sash Locks: Maxim 24 Series single point locks.
      9. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screen option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: FlexScreen.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: AP-LC40 (DP40) - Test Size: 60 inches x 42 inches (1524 mm x 1067 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
      2. Structural Rating: AP-LC75 (DP 75) - Size: 48 inches x 32 inches (1219.2 mm x 812.8 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
      3. Forced Entry: Type B, Grade 20 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete STC option not required.

* + - 1. Sound Transmission Class (STC): 26.
      2. Sound Transmission Class (STC): 29.
      3. Sound Transmission Class (STC): 34.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.39.
        2. ThermaLock 3X With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.20/ VT 0.35.
        3. SunGain PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.42/ VT 0.50.
        4. SunGain PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.38/ VT 0.45.
        5. ThermaLock RS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.26/ VT 0.46.
        6. ThermaLock RS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.24/ VT 0.42.
        7. SunShield PLUS No Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.18/ VT 0.41.
        8. SunShield PLUS With Grids: U-Factor 0.24/ R-Value 4.16/ SHGc 0.16/ VT 0.37.
        9. SunShield No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.18/ VT 0.42.
        10. SunShield With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.17/ VT 0.38.
        11. ThermaLock No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.25/ VT 0.42.
        12. ThermaLock With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.23/ VT 0.38.
        13. ThermaGuard No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.27/ VT 0.47.
        14. ThermaGuard With Grids: U-Factor 0.27 / R-Value 3.70/ SHGc 0.24/ VT 0.43.
        15. SunGain No Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.43/ VT 0.52.
        16. SunGain With Grids: U-Factor 0.28/ R-Value 3.57/ SHGc 0.39/ VT 0.47.
  1. REPLACEMENT HOPPER WINDOWS
     1. Construction:
        1. Frame: 0.065 inch (1.7 mm) thick polyvinyl chloride (PVC). Sash: 0.065 inch (1.7 mm). Miter cut and mechanically fastened sash and fusion welded frame.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: 7/8 inch (22 mm) nominal thickness Insulating glass to be glazed utilizing a two leaf dual durometer glazing channel. Complies with ASTM E2190.
      7. Hinges: Maxim 13 series.
      8. Sash Locks: Knife type double locks when openings are 30 1/2 inches (774 mm) and wider.
      9. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum frame. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum frame. 18 x 16 charcoal finish aluminum mesh.

\*\* NOTE TO SPECIFIER \*\* Delete grids option not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
    1. Performance:
       1. Structural Rating: AP-R15 - Test Size: 48 inches x 32 inches (1219 mm x 813 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type B, Grade 10 in accordance with ASTM F588.
       3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.23/ VT 0.42.
        2. ThermaLock 3X With Grids: U-Factor 0.23/ R-Value 4.54/ SHGc 0.21/ VT 0.38.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.45/ VT 0.54.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.41/ VT 0.49.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.50.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.26/ VT 0.45.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.19/ VT 0.44.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.18/ VT 0.40.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.19/ VT 0.45.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.18/ VT 0.41.
        11. ThermaGuard No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.28/ VT 0.50.
        12. ThermaGuard With Grids: U-Factor 0.30 / R-Value 3.33/ SHGc 0.26/ VT 0.45.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.46/ VT 0.55.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.42/ VT 0.50.
  1. REPLACEMENT ROLLING WINDOWS
     1. Construction:
        1. Frame: 0.090 inch (2.3 mm) thick polyvinyl chloride (PVC). Sash: 0.080 inch (2.0 mm) thick. Miter cut and fusion welded corners on frame and sash,

\*\* NOTE TO SPECIFIER \*\* Custom colors are available. Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to sash frame using a silicone sealant and a dual durometer glazing bead. Complies with ASTM E2190.
      7. Sash Locks: Cam type.
      8. Weather stripping: In compliance with AAMA 701.2.

\*\* NOTE TO SPECIFIER \*\* Delete screens option not required.

* + - 1. Screens: Extruded aluminum screen. 18 x 16 charcoal finish fiberglass mesh.
      2. Screens: Extruded aluminum screen. 18 x 16 charcoal finish aluminum mesh.
      3. Screens: FlexScreen.
      4. Screens: FlexScreen. Exterior Painted.

\*\* NOTE TO SPECIFIER \*\* Delete grids options not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:

\*\* NOTE TO SPECIFIER \*\* Delete structural rating option not required.

* + - 1. Structural Rating: HS-LC35 (DP35) - Test Size: 72 inches x 62 1/2 inches (1829 mm x 1588 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
      2. Structural Rating: HS-LC35 (DP 25) - Test Size: 120 inches x 62 1/2 inches (3048 mm x 1588 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11.
      3. Forced Entry: Type A, Grade 10 in accordance with ASTM F588.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission class option not required.

* + - 1. Sound Transmission Class (STC): 26 Two Lite.
      2. Sound Transmission Class (STC): 33 Two Lite.
      3. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.25/ VT 0.46.
        2. ThermaLock 3X With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.22/ VT 0.41.
        3. SunGain PLUS No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.48/ VT 0.59.
        4. SunGain PLUS With Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.43/ VT 0.53.
        5. ThermaLock RS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.30/ VT 0.55.
        6. ThermaLock RS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.27/ VT 0.49.
        7. SunShield PLUS No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.21/ VT 0.48.
        8. SunShield PLUS With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.19/ VT 0.43.
        9. SunShield No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.21/ VT 0.49.
        10. SunShield With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.19/ VT 0.44.
        11. ThermaGuard No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.31/ VT 0.55.
        12. ThermaGuard With Grids: U-Factor 0.29 / R-Value 3.44/ SHGc 0.28/ VT 0.49.
        13. SunGain No Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.50/ VT 0.61.
        14. SunGain With Grids: U-Factor 0.30/ R-Value 3.33/ SHGc 0.45/ VT 0.54.
  1. REPLACEMENT PICTURE WINDOWS
     1. Construction:
        1. Frame: 0.075 inch (1.9 mm) wall thickness polyvinyl chloride (PVC). Miter cut and fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to frame using sealant in the corners and a dual durometer glazing bead. Complies with ASTM E2190.

\*\* NOTE TO SPECIFIER \*\* Grid options - Delete 3 of the next 4 paragraphs or all if not required.

* + - 1. Grids: 5/8 inch (16 mm) Colonial contour grids between glass (GBG) dividers.
      2. Grids: 1 inch (25 mm) Colonial contour grids between glass (GBG) dividers.
      3. Grids: 5/8 inch (16 mm) SDL (Simulated Divided Lites).
      4. Grids: 1 inch (25 mm) SDL (Simulated Divided Lites).
    1. Performance:
       1. Structural Rating: F-C55 (DP55) - Test Size: 72 inches x 72 inches (1829 mm x 1829 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11.

\*\* NOTE TO SPECIFIER \*\* Delete sound transmission class option not required.

* + - 1. Sound Transmission Class (STC): 29.
      2. Sound Transmission Class (STC): 32.
      3. Forced Entry: Type D, Grade 10 in accordance with ASTM F588.
      4. Glazing Type: Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. ThermaLock 3X No Grids: U-Factor 0.19/ R-Value 5.26/ SHGc 0.26/ VT 0.49.
        2. ThermaLock 3X With Grids: U-Factor 0.20/ R-Value 5.00/ SHGc 0.24/ VT 0.43.
        3. SunGain PLUS No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.51/ VT 0.63.
        4. SunGain PLUS With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.46/ VT 0.56.
        5. ThermaLock RS No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.32/ VT 0.58.
        6. ThermaLock RS With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.29/ VT 0.51.
        7. SunShield PLUS No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.51.
        8. SunShield PLUS With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.22/ VT 0.46.
        9. ThermaLock No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.30/ VT 0.52.
        10. ThermaLock With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.28/ VT 0.47.
        11. SunShield No Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.22/ VT 0.52.
        12. SunShield With Grids: U-Factor 0.25/ R-Value 4.00/ SHGc 0.20/ VT 0.46.
        13. ThermaGuard No Grids: U-Factor 0.26/ R-Value 3.84/ SHGc 0.32/ VT 0.59.
        14. ThermaGuard With Grids: U-Factor 0.26 / R-Value 3.84/ SHGc 0.29/ VT 0.52.
        15. SunGain No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.53/ VT 0.64.
        16. SunGain With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.47/ VT 0.57.
  1. REPLACEMENT DESIGNER SHAPES WINDOWS
     1. Construction:
        1. Frame: 0.1 inch (2.5 mm) wall thickness polyvinyl chloride (PVC) with miter cut and fusion welded corners.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White Vinyl.
      2. Color: Almond Vinyl.
      3. Color: White Vinyl with Dark Bronze Exterior Finish - Painted.
      4. Color: White Vinyl with Black Exterior Finish - Painted.
      5. Color: Custom Exterior Finish - Painted. As determined by the Architect.
      6. Glazing: Insulating glass units secured to frame using silicone sealant and a dual durometer glazing bead. Complies with ASTM E2190.

\*\* NOTE TO SPECIFIER \*\* Grids are optional. Delete paragraph if not required.

* + - 1. Grids: Colonial contour grids between glass (GBG) dividers.
    1. Performance:
       1. Structural Rating: F-C50 (DP50) - Test Size: 78 inches x 85 1/4 inches (1981 mm x 2165 mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17.
       2. Forced Entry: Type D, Grade 10 in accordance with ASTM F588.
       3. Glazing Type: The Thermal transmittance in accordance with NFRC 100/200/500.

\*\* NOTE TO SPECIFIER \*\* Delete glazing type options not required.

* + - * 1. SunGain PLUS DSB No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.55/ VT 0.68.
        2. SunGain PLUS DSB With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.49/ VT 0.61.
        3. ThermaLock RS DSB No Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.32/ VT 0.60.
        4. ThermaLock RS DSB With Grids: U-Factor 0.23/ R-Value 4.34/ SHGc 0.29/ VT 0.54.
        5. SunShield PLUS DSB No Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.23/ VT 0.55.
        6. SunShield PLUS DSB With Grids: U-Factor 0.22/ R-Value 4.54/ SHGc 0.21/ VT 0.50.
        7. SunShield DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.24/ VT 0.57.
        8. SunShield DSB With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.22/ VT 0.51.
        9. ThermaLock DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.30/ VT 0.52.
        10. ThermaLock DSB With Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.27/ VT 0.47.
        11. ThermaGuard DSB No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.32/ VT 0.61.
        12. ThermaGuard DSB With Grids: U-Factor 0.27 / R-Value 3.70/ SHGc 0.29/ VT 0.55.
        13. SunGain DSB No Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.56/ VT 0.69.
        14. SunGain DSB With Grids: U-Factor 0.29/ R-Value 3.44/ SHGc 0.51/ VT 0.62.
  1. REPLACEMENT WINDOW ACCESSORIES

\*\* NOTE TO SPECIFIER \*\* Mullion are optional. Delete paragraph if mullions are not required.

* + 1. Mullions:

\*\* NOTE TO SPECIFIER \*\* Common Jamb units are available up to 130 inches wide. Delete 2 of the next 3 paragraphs.

* + - 1. Common Jamb: Windows are contained within single frame and separated by a common mull post.
      2. Structural Mullion: DP 50 to 120 mph performance rated mullion for areas requiring conformance to increased wind loads (replacement windows only).
      3. Non-Structural Combination Mullion: Horizontal or vertical members formed by joining two or more window units. May be factory or field applied.

1. EXECUTION
   1. EXAMINATION
      1. Verify rough opening size is of sufficient size to receive window unit and complies with manufacturer's requirements for opening clearances. Verify sill plate is level.
      2. Notify Architect of unacceptable conditions before proceeding with installation.
   2. INSTALLATION
      1. Install window unit in accordance with manufacturer's printed instructions including the following:
         1. Apply sealant around perimeter of window unit between nail fin and exterior sheathing of wall. Refer to Division 7 Section "Joint Sealants".
         2. Install window unit square, level and plumb. Center window unit in opening and secure window unit by nailing through nail fin and screw through jambs as indicated in manufacturer's instructions.
         3. Flash window in accordance with AAMA's "Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction".
         4. Insulate between window frame and rough opening with insulation. Refer to Division 7 Section "Building Insulation".
   3. ADJUSTING
      1. Adjust units for smooth operation without binding or racking. Adjust sash locks and screens for smooth operation.
   4. CLEANING AND PROTECTION
      1. Clean soiled surfaces and glass prior to substantial completion.
      2. Protect window unit from damage until substantial completion. Repair or replace damaged units.

END OF SECTION