SECTION 08565

VINYL (PVC) WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Single Hung Window Units.

B. Double Hung Window Units.

C. Horizontal Sliding Window Units.

D. Horizontal Sliding Patio Door Units.

E. Casement Window Units.

1.2 RELATED SECTIONS

A. Section 05400 - Cold Formed Metal Framing.

B. Section 06100 - Rough Carpentry.

C. Section 07900 - Joint Sealers.

D. Section 09100 - Metal Support Systems.

1.3 REFERENCES

A. AAMA 101 - Voluntary Standard for Aluminum and Poly (Vinyl Chloride) (PVC) Prime Windows and Glass Doors.

B. NFRC 100 - Thermal Properties; National Fenestration Rating Council.

C. ASTM D 3656 - Standard Specification for Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Fiber Yarn.

D. ASTM D 3678 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Interior Profile Extrusions.

E. ASTM D 4028 - Standard Specification for Solar Screening Woven from Vinyl-Coated Fiber Glass Yarn.

F. ASTM D 4099 - Standard Specification for Poly (Vinyl Chloride) (PVC) Prime Windows/Sliding Glass Doors.

G. ASTM E 774 - Standard Specification for Sealed Insulating Glass.

H. IGCC - Classification of Insulating Glass Units; Insulated Glass Certification Council.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's standard details and catalog data demonstrating compliance with referenced standards; include manufacturer's standard installation instructions.

C. Drawings: Manufacturer's product drawings showing details of fabrication, hardware, weatherstripping, fasteners, screens, glazing, accessories, and related items.

D. Verification Samples: Operating sample of each window type specified illustrating fabrication, hardware, glazing, screen, and finish.

E. Test Reports: For each window type specified, furnish test reports from accredited independent testing laboratory certifying that identical or larger window units meet requirements specified for air infiltration, water penetration and structural performance by ASTM D 4099 or AAMA 101, for thermal performance by NFRC, and for seal integrity of insulating glass units by IGCC.

F. Closeout Submittals: Warranty documents, properly executed.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum ten (10) years experience producing vinyl (PVC) windows.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver windows to project site in undamaged condition; handle windows to prevent damage to components and to finishes.

B. Store windows out of contact with ground; protect windows from weather and construction traffic in well-ventilated area.

1.7 WARRANTY

A. Furnish manufacturer's standard warranty against deficiencies in materials or fabrication.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: ALSIDE Window Systems;, P.O. Box 2010 Akron, OH 44309; ASD. Tel: (800) 257-4335, Fax: (330) 922-5387.

B. Substitutions: Not permitted.

2.2 SINGLE HUNG WINDOW UNITS

A. Acceptable Product: ALSIDE MODEL 0500.
   1. Grade: ASTM D 4099 Grade 40, AAMA 101 Grade R40, for 48-inch wide by 72-inch high window unit; exceeding grade requirements as follows:
      a. Water test pressure: 4.5 pounds per square foot.
      b. Air infiltration: 0.15 cubic feet per minute per linear foot at 25 miles per hour.
   2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.50.
   3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.33.
   4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
   5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
   6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
   7. Frame: PVC extrusions, overlapping butt-joint construction, joined with screws into integral screw ports; sloped sill for positive drainage.
   8. Sash: PVC extrusions, tilt-in operation of lower sash for cleaning, with spiral balances, integral double walled lift rail for added strength,

interlocking with fixed meeting rail of main frame, and cam-type sweep locks and keepers.

9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

B. Acceptable Product: ALSIDE MODEL 0100.

1. Grade: ASTM D 4099 Grade 20, AAMA 101 Grade R20, for 48-inch wide by 72-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 3.0 pounds per square foot.
   b. Air infiltration: 0.10 cubic feet per minute per linear foot at 25 miles per hour.
   c. Test pressure sustained without damage: 30 pounds per square foot.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.50.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.31.
4. Glazing: Sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass.
5. Glazing: Low-e sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners.
8. Sash: Narrow-line fusion-welded PVC extrusions, mitered corners, tilt-in operation of lower sash for cleaning, with spiral balances, integral lift rail for added strength, interlocking with fixed meeting rail of main frame, and cam-type sweep locks and keepers.
9. Nailing fin: Extruded PVC, 1-1/8 inches wide, four sides.
10. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.

11. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

2.3 DOUBLE HUNG WINDOW UNITS

A. Acceptable Product: ALSIDE MODEL 0901.

1. Grade: ASTM D 4099 Grade 40, AAMA 101 Grade R40, for 48-inch wide by 72-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 5.0 pounds per square foot.
   b. Air infiltration: 0.16 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.50.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.34.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, telescoping butt-joint construction reinforced at corners, joined with screws into integral screw ports; sloped sill for positive drainage.
8. Sash: PVC extrusions, aluminum reinforced horizontal members for window units over 28-7/8 inches wide, tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances, integral double walled lift rail for added strength, interlocking meeting rails and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

B. Acceptable Product: ALSIDE MODEL 0601.

1. Grade: ASTM D 4099 Grade 45, AAMA 101 Grade R45, for 47-inch wide by 60-inch high window unit; exceeding grade requirements as follows:

a. Water test pressure: 6.0 pounds per square foot.
b. Air infiltration: 0.13 cubic feet per minute per linear foot at 25 miles per hour.

2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.47.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.32.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; concealed screen track.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances, double lift rail on bottom sash, interlocking meeting rails, and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

C. Acceptable Product: ALSIDE MODEL 3001.

1. Grade: ASTM D 4099 Grade 45, AAMA 101 Grade R45, for 48-inch wide by 72-inch high window unit; exceeding grade requirements as follows:
a. Water test pressure: 4.5 pounds per square foot.
b. Air infiltration: 0.19 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.34.
4. Glazing: Sealed insulating glass unit, 15/16 inch unit thickness, with DSB glass.

5. Glazing: Low-e sealed insulating glass unit, 15/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, butt-joint construction, sloped hospital sill for positive drainage.
8. Sash: PVC extrusions, mitered corners joined with 4 screws per corner into heavy duty corner gussets; tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances; integral double walled lift rail for added strength, interlocking meeting rails on top and bottom sash, and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Reinforcement: Steel reinforced frame and/or sash.
11. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

D. Acceptable Product: ALSIDE MODEL O201.
1. Grade: ASTM D 4099 Grade 30, AAMA 101 Grade R30, for 48-inch wide by 60-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 4.5 pounds per square foot.
   b. Air infiltration: 0.15 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.51.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.36.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; sloped sill for positive drainage.

8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances, interlocking meeting rails, and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

E. Acceptable Product: ALSIDE MODEL 0401.
1. Grade: ASTM D 4099 Grade 35, AAMA 101 Grade R35, for 36-inch wide by 60-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 4.50 pounds per square foot.
   b. Air infiltration: 0.15 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.33.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, telescoping butt-joint construction reinforced at corners, joined with screws into integral screw ports; sloped sill for positive drainage.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances, double lift rail on bottom sash, interlocking meeting rails, and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured

with continuous vinyl gasket, removable for screen replacement.

10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

F. Acceptable Product: ALSIDE MODEL 0301.

1. Grade: ASTM D 4099 Grade 30, AAMA 101 Grade R30, for 48-inch wide by 60-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 4.5 pounds per square foot.
   b. Air infiltration: 0.15 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.51.
3. Thermal performance, in accordance with NFRC 100, for 48-inch wide by 72-inch high window unit: U-Value 0.36.
4. Glazing: Sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass.
5. Glazing: Low-e sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; sloped sill for positive drainage, integral J-channel.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, tilt-in operation of upper and lower sash for cleaning, with field-adjustable spiral balances, interlocking meeting rails, and cam-type sweep locks and keepers.
9. Nailing fin: Extruded PVC, four sides, 1.75 wide.
10. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
11. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

2.4 HORIZONTAL SLIDING WINDOW UNITS

A. Acceptable Product: ALSIDE MODEL 0902.

1. Grade: ASTM D 4099 Grade 40, AAMA 101 Grade R40, for 72-inch wide by 48-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 4.5 pounds per square foot.
   b. Air infiltration: 0.20 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.50.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.34.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, butt-joint construction at corners, joined with screws into integral screw ports; multi-chambered weep system with wind-blocking covers.
8. Sash: PVC extrusions, aluminum-reinforced vertical members for window units over 29-1/2 inches high, lift-out operation of both operable sash units, with nylon-encased metal dual-roller system, full-interlocking meeting rails, full sash capture at jamb, sash vent lock, theft-deterrent blocks, and cam-type sweep locks and keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

B. Acceptable Product: ALSIDE MODEL 0602.
   1. Grade: ASTM D 4099 Grade 50, AAMA 101 Grade R50, for 72-inch wide by 51-inch high window unit; exceeding grade requirements as follows:
      a. Water test pressure: 6.5 pounds per square foot.
      b. Air infiltration: 0.20 cubic feet per minute per linear foot at 25 miles per hour.

2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.47.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.31.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; step sill for positive drainage, concealed screen track.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, lift-out operation of both operable sash units, with nylon-encased metal dual-roller system, full-interlocking meeting rails, full sash capture at jamb, sash vent lock, theft-deterrent blocks, cam-type locks with keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

C. Acceptable Product: ALSIDE MODEL 3002.
1. Grade: ASTM D 4099 Grade 50, AAMA 101 Grade R50, for 72-inch wide by 50-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 5.0 pounds per square foot.
   b. Air infiltration: 0.16 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.35.
4. Glazing: Sealed insulating glass unit, 15/16 inch unit thickness, with DSB glass.

5. Glazing: Low-e sealed insulating glass unit, 15/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners.
8. Sash: PVC extrusions, mitered corners with heavy duty corner gussets secured by four (4) screw fasteners each corner, lift-out operation of both operable sash units, with nylon-encased metal dual-roller system, full-interlocking meeting rails, full sash capture at jamb, sash vent lock, theft-deterrent blocks, dual chrome-plated cam-type locks with stainless steel keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

D. Acceptable Product: ALSIDE MODEL 0102.
1. Grade: ASTM D 4099 Grade 25, AAMA 101 Grade R25, for 72-inch wide by 48-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 5.25 pounds per square foot.
   b. Air infiltration: 0.10 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.50.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.31.
4. Glazing: Sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass.
5. Glazing: Low-e sealed insulating glass unit, 3/4 inch unit thickness, with SSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.

7. Frame: PVC extrusions, fusion-welded construction, mitered corners; weeps in sill for positive drainage, extruded PVC nailing fin four (4) sides.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, lift-out operation of operable sash unit, with full-interlocking meeting rail, full sash capture at jamb, cam-type locks with keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

E. Acceptable Product: ALSIDE MODEL O202.
1. Grade: ASTM D 4099 Grade 40, AAMA 101 Grade R40, for 60-inch wide by 36-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 6.0 pounds per square foot.
   b. Air infiltration: 0.12 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.35.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; weeps in sill for positive drainage.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, lift-out operation of both operable sash units, with nylon-encased metal dual-roller system, full-interlocking meeting rails, full sash capture at sill, cam-type locks with keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.

10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

F. Acceptable Product: ALSIDE MODEL O402.

1. Grade: ASTM D 4099 Grade 40, AAMA 101 Grade R40, for 72-inch wide by 48-inch high window unit; exceeding grade requirements as follows:
   a. Water test pressure: 5.25 pounds per square foot.
   b. Air infiltration: 0.20 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 48-inch high window unit: U-Value 0.33.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, butt-joint construction at corners, joined with screws into integral screw ports; multi-chambered weep system with wind-blocking covers.
8. Sash: PVC extrusions, fusion-welded narrow-line construction, mitered corners, lift-out operation of both operable sash units, with nylon-encased metal dual-roller system, full-interlocking meeting rails, full sash capture at jamb, cam-type locks with keepers.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

2.5 HORIZONTAL SLIDING PATIO DOOR UNITS

A. Acceptable Product: ALSIDE MODEL 6100.

1. Grade: ASTM D 4099 Grade 35, AAMA 101 Grade R35, for 69-inch wide by 79-inch high door unit; exceeding grade requirements as follows:

a. Water test pressure: 4.5 pounds per square foot.
b. Air infiltration: 0.15 cubic feet per minute per linear foot at 25 miles per hour.

2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.54.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.39.
4. Glazing: Sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: Vinyl-clad wood, triple-screw butt-joint construction; sloped vinyl sill with steel roller track.
8. Sash: PVC extrusions, butt-joint construction, steel-reinforced vertical members, operable sash unit with adjustable dual-roller system, full-interlocking meeting rails, full sash capture at jamb, and latching hardware with keeper.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement; four-point adjustable rollers.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.
11. Hardware operation: Keyed lock on exterior side, with two (2) keys.
12. Hardware finish: Brass.
13. Vent lock.

B. Acceptable Product: ALSIDE MODEL 2100.

1. Grade: ASTM D 4099 Grade 30, AAMA 101 Grade R30, for 72-inch wide by 80-inch high door unit; exceeding grade requirements as follows:
   a. Water test pressure: 3.75 pounds per square foot.
   b. Air infiltration: 0.09 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.50.

3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.34.
4. Glazing: Sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, mechanical butt-joint construction, stainless steel track; sloped vinyl sill for positive drainage.
8. Sash: PVC extrusions, fusion-welded construction, mitered corners, steel-reinforced vertical members on operable panel, operable sash unit with adjustable dual-roller system, full-interlocking meeting rails, full sash capture at jamb, and latching hardware with keeper.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement; four-point adjustable rollers.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.
11. Hardware operation: Keyed lock on exterior side, with two (2) keys.

C. Acceptable Product: ALSIDE MODEL 1100.
1. Grade: ASTM D 4099 Grade 30, AAMA 101 Grade R30, for 72-inch wide by 80-inch high door unit; exceeding grade requirements as follows:
   a. Water test pressure: 3.75 pounds per square foot.
   b. Air infiltration: 0.09 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.49.
3. Thermal performance, in accordance with NFRC 100, for 72-inch wide by 96-inch high door unit: U-Value 0.34.
4. Glazing: Sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass.

5. Glazing: Low-e sealed insulating glass unit, 7/8 inch unit thickness, with fully-tempered DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.
7. Frame: PVC extrusions, fusion-welded construction, mitered corners; vinyl sill with aluminum roller track.
8. Sash: PVC extrusions, fusion-welded construction, mitered corners, steel-reinforced vertical members on operable sash unit with adjustable dual-roller system, full-interlocking meeting rails, full sash capture at jamb, and latching hardware with keeper.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement; four-point adjustable rollers.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.
11. Hardware operation: Keyed lock on exterior side, with two (2) keys.

2.6 CASEMENT WINDOW UNITS

A. Acceptable Product: ALSIDE MODEL 0961.
1. Grade: ASTM D 4099 Grade 50, AAMA 101 Grade R50, for 26-inch wide by 50-inch high window unit; exceeding grade requirements as follows:
a. Water test pressure: 5.25 pounds per square foot.
b. Air infiltration: 0.04 cubic feet per minute per linear foot at 25 miles per hour.
2. Thermal performance, in accordance with NFRC 100, for 30-inch wide by 60-inch high window unit: U-Value 0.44.
3. Thermal performance, in accordance with NFRC 100, for 30-inch wide by 60-inch high window unit: U-Value 0.30.
4. Glazing: Sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass.
5. Glazing: Low-e sealed insulating glass unit, 13/16 inch unit thickness, with DSB glass and argon gas fill.
6. Sealed Insulating Glass Units: Conform to ASTM E 774, Level CBA, utilizing PPG Warm-Edge "Intercept" Spacer System.

7. Frame: PVC extrusions, fusion-welded construction, mitered corners.
8. Sash: PVC extrusions, fusion-welded construction, mitered corners, operable sash unit with single-handle multi-point locking system, positive-action rotary-crank operator system, with handle.
9. Insect screening: Roll-formed or extruded aluminum channel frames, with 18 by 16 fiberglass mesh secured with continuous vinyl gasket, removable for screen replacement.
10. Muntins: Colonial grid installed between outer and inner glass panes during fabrication of insulating glass units.

2.7 FABRICATION

A. Window/Door Units: Assemble units completely in factory, including operating hardware and glazing.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Openings are in correct location, and of correct size, in accordance with approved shop drawings and manufacturer's installation instructions.

B. Installer's Examination:
1. Have installer of this section examine conditions under which construction activities of this section are to be performed, then submit written notification if such conditions are unacceptable.
2. Transmit two copies of installer's report to Architect within 24 hours of receipt.
3. Beginning construction activities of this section before unacceptable conditions have been corrected is prohibited.
4. Beginning construction activities of this section indicates installer's acceptance of conditions.

3.2 INSTALLATION

A. Install products specified in this section square, plumb and level, in accordance with approved shop drawings and manufacturer's installation instructions.

B. Installation of joint sealers is specified in Section 07900.

3.3 ADJUSTING

A. Adjust operating hardware for correct operation in accordance with manufacturer's installation instructions.

3.4 CLEANING

A. Clean interior and exterior surfaces free of labels, mortar, plaster, paint, joint sealers, and other foreign matter to prevent damage to weatherstrip, and to prevent interference with operation of hardware.

3.5 PROTECTION

A. Protect ventilators and operating parts from dirt and damage caused by subsequent construction activities.

B. Replace units damaged by subsequent construction activities.

END OF SECTION