



SECTION 08563 [08 53 13]

VINYL WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Vinyl Windows.

1.2 RELATED SECTIONS

- A. Section 05400 - Cold Formed Metal Framing.
- B. Section 06100 - Rough Carpentry: Framed openings.
- C. Section 06200 - Finish Carpentry: Interior wood casing.
- D. Section 07210 - Building Insulation: Batt insulation at window perimeter.
- E. Section 07455 – Simulated wood trim.
- F. Section 07460 - Siding and trim.
- G. Section 07620 - Flashing and Sheet Metal: Flashing associated with windows and doors.
- H. Section 07900 - Joint Sealers: Perimeter joint sealant and backer rod.
- I. Section 08260 – Vinyl Patio Doors
- J. Section 09200 - Plaster and Gypsum Board.

1.3 REFERENCES

- A. AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, and A440-11 - NAFS - North American Fenestration Standard Specification for windows, doors, and skylights.
- B. AAMA 615-13 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Plastic Profiles.

- C. AAMA 701/702 - Voluntary Specification For Pile Weatherstripping And Replaceable Fenestration Weatherseals.
- D. AAMA 902 - Voluntary Specification for Sash Balances.
- E. ASTM A 386 - Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
- F. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- G. ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
- H. ASTM E 2112 - Standard Practice for Installation of Exterior Windows, Doors and Skylights.
- I. ASTM E 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
- J. ASTM F 588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.
- K. ASTM F 842 - Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact.
- L. Consumer Products Safety Commission (CPSC): 16 CFR 1201 - Safety Standard for Architectural Glazing Materials.
- M. Energy Star Rating System: US EPA and US DoE.
- N. Safety glass tested in accordance with ANSI Z97.1.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Products shall meet or exceed the requirements of American Architectural Manufacturers Association (AAMA), the National Fenestration Rating Council (NFRC), and shall carry the Energy STAR label.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Manufacturer's head, jamb and sill details for each unit specified.
 4. Installation methods.
- C. Shop Drawings: For each unit type specified include elevations indicating size, glazing type, sections, details, hardware, relationship to adjacent construction, operational clearances and installation details showing multiple unit connections.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

- E. Verification Samples: For each interior and exterior finish specified, two samples, minimum size 6 inches (150 mm) long, representing actual product, color, and finish.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for adjustment and maintenance of components.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Minimum ten years experience manufacturing vinyl (PVC) windows.
 - 2. Capable of fabricating vinyl windows and doors that meet or exceed performance requirements indicated.
 - 3. Capable of providing documentation of performance characteristics by inclusion in lists and by labels, test reports, and calculations.
- B. Installer Qualifications: Installer with a minimum of 2 years experience on projects of a similar size and scope with similar installation conditions.
- C. Testing: Provide window units independently tested and found to be in compliance with AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, or A440-11 performance standards.
- D. Code Compliance: Provide windows that are labeled in compliance with the jurisdiction having authority in the location of the project
- E. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.
 - 4. Accepted mock-ups shall be comparison standard for remaining Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original unopened packaging with intact until ready for installation.
- B. Store products off the ground, out of direct sunlight in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer until ready for installation. Protect from damage.

1.8 SEQUENCING

- A. Ensure that information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 PROJECT CONDITIONS

- A. Field Measurements: Verify rough openings by field measurements before fabrication and indicate measurements on Shop Drawings.

- B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.10 WARRANTY

- A. Manufacturer's Lifetime Limited Warranty that all windows will be free from manufacturing defects for life; to include screens and glass.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: AMSCO Windows; 1880 South 1045 West, Salt Lake City, UT 84104; Telephone: (888) 82-AMSCO (888-822-6726); E-mail: amsco@amscowindows.com; website: www.amscowindows.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 VINYL WINDOWS – ARTISAN SERIES

- A. Type: AMSCO Windows Artisan Series.
 - 1. Double Hung/Tilt:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG20 / LC-PG25. Maximum size: 48 inches by 84 inches. / 44 inches by 75 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 2. Single Hung:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC-PG35. Maximum size: 48 inches by 96 inches. / 48 inches by 84 inches. / 44 inches by 75 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 3. Casement:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG20 / LC-PG25 / C-PG50. Maximum size: 36 inches by 72 inches / 36 inches by 72 inches / 36 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 4. Awning:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:

- c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC-PG30 / LC-PG40. Maximum size: 60 inches by 36 inches / 48 inches by 36 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 5. Horizontal Sliding:
 - a. Air Infiltration, ASTM E 283: Maximum 0.05 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG15 /LC-PG25/ LC-PG25 / LC-PG35. Maximum size: 144 inches by 72 inches / 96 inches by 60 inches / 72 inches by 72 inches / 72 inches by 60 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 6. Fixed Sash & Frame Picture Window, Direct Set:
 - a. Air Infiltration, ASTM E 283: Maximum 0.14 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: CW-PG35. Test Size: 120 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 7. Specialty:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05:
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 8. Sliding Patio Door:
 - a. Air Infiltration, ASTM E 283: Maximum 0.12 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: C30. Test Size: 96 inches by 96 inches.
 - d. Forced Entry: Meets forced entry resistance performance per AMST F 842.
- B. Construction:
 - 1. General:
 - a. Main Frame: Frame depth 3-1/4 inches. PVC extrusions, multi-chambered, fusion-welded construction, mitered corners and exterior beveled design.
 - b. Interlocking Panels: Interlocking panels and high-performance weather stripping.
 - c. Fixed/Deadlite Sash: PVC extrusions, fusion-welded construction, mitered corners and exterior beveled design permanently assembled/secured into main frame.
 - d. Vent Sash: PVC extrusions, fusion-welded construction, mitered corners, extruded vinyl finger pull rail on leading jamb or sill side of vent sash.
 - 2. Frame Style:
 - a. Nail Fin 3-1/4 inch frame depth with an integral 1-3/8 inch nail fin setback for new construction applications.
 - b. Retrofit-Flush Fin Integral 1-1/2 inch dual wall retrofit flush fin on the exterior of the frame for retrofit application without removing the old window frame.
 - 3. Glazing System: Secured to sash frame using glazing tape and snap-in glazing bead color matched to exterior window finish. Factory exterior glazed

except where field glazing is required due to large window unit dimensions. Units shall be re-glazeable without dismantling sash framing.

4. Double Hung with Tilt Sash
 - a. Tilt upper and lower sash for easy cleaning of exterior
 - b. Integral finger pulls.
 - c. Block and tackle balance system.
5. Single Hung
 - a. Standard side load single hung.
 - b. Integral finger pulls on the bottom of the sash.
 - c. Block and tackle balance system.
6. Casement
 - a. Centered sash for ease of cleaning (excludes egress hardware)
 - b. Unison lock with concealed hardware
 - c. Standard folding handle
 - d. Standard color-matched or optional plated hardware
7. Awning
 - a. Scissor-style hardware for smooth operation
 - b. Two locks with concealed hardware
 - c. Standard folding handle
 - d. Standard color-matched or optional plated hardware
8. Horizontal Slider
 - a. Heavy-duty nylon rollers with a stainless steel axle.
 - b. Integral finger pulls on vent.
9. Picture/Fixed Windows
 - a. Direct set.
 - b. Equal site line options
10. Specialty Shapes
 - a. Round Tops
 - b. Arch Tops
 - c. Octagons
 - d. Full Circles
 - e. Half Circles
 - f. Quarter Circles
 - g. Quarter Angles
 - h. Trapezoids
 - i. Quarter Rectangles
 - j. Eyebrows
11. Patio Door
 - a. 2 panel (OX or XO) doors.
 - b. 3 panel (OXO, XXO or OXX) doors.
 - c. 4 panel (OXXO) doors.
 - d. J Channel option.
 - e. Stucco Key option
12. Window Screens:
 - a. Mesh: 18 x 16 fiberglass mesh secured with continuous vinyl gasket.
 - b. Frames: Roll form aluminum channel type.
13. Patio Door Screens:
 - a. Mesh: 18 x 16 fiberglass mesh secured with continuous vinyl gasket.
 - b. Frames: Extruded aluminum channel type

C. Color:

1. Integral Vinyl Color:
 - a. White
 - b. Almond
 - c. Taupe
2. SuperCapSR Acrylic Color Cap:

- a. Bronze
 - b. Silver
 - c. Autumn Red
 - 3. Painted Colors:
 - a. Black.
 - b. Cream.
 - c. Silver.
 - d. Gray.
 - e. Clay.
 - f. Green.
 - g. Red.
 - h. Olive.
 - i. Brown.
 - j. Dark Brown.
 - k. Bronze.
 - l. Forest Green.
- D. Glass: Nominal Thickness: Insulated 3/4 inch glass with warm edge spacers.
- 1. Type: Insulated, CōzE (Standard Low E Glass, Cardinal 270). Insulating value over 35 percent more efficient than clear insulated glass
 - 2. Type: Insulated, CōzE Tint (Low-E Glass, Cardinal 240). Blocks 84 percent of ultraviolet radiation.
 - 3. Type: Insulated, CōzE HV (Low-E Glass, Cardinal 366) triple-layer silver coating. Blocks 95 percent of ultraviolet radiation. Triple-layer silver coating.
 - 4. Type: Insulated, CōzE Vantage (Low-E Glass) Hard Coat Low E technology with Low E on two surfaces.
 - 5. Argon Fill: Provide insulated glass with argon gas fill.
 - 6. Bright Glass: Provide with glass designed to be easier to clean and to stay clean longer.
- E. Hardware:
- 1. Window Sash Locks: Hardware color to match the interior vinyl color
 - a. Cam lock anchored with screws driven through the sash rail and into reinforcing bar.
 - b. SentryLock system hardware of engineered plastic with magnetic, positive action locking function and visual red stripe unlocked indicator.
 - 2. Sliding Patio Door Handle: Sliding Patio Door system hardware with 2-point mortise latch. Handle color to match the vinyl color.
 - 3. Vent Rollers: Nylon; adjustable tandem type.
 - 4. Weatherstripping: To AAMA 701/702.
- F. Grids:
- 1. Surface-Applied Grids: Vinyl, simulated divided lite grids, 1 inch, surface applied, with aluminum, bronze, between-the-glass shadow bar grid, color matched to frame.
 - a. SLD 1 inch
 - 2. Airspace Grids: Aluminum 5/8 inch flat grids, 13/16 inch sculptured grids, and 1 inch sculptured grids sealed between the glass, color-matched to frame. Two-tone grids color-matched to SuperCapSR color cap vinyl frame colors.
 - a. Sculptured 1 inch
 - b. Sculptured 3/4 inch
 - c. Flat 5/8 inch.
 - d. Flat 13/16 inch

2.3 VINYL WINDOWS – STUDIO SERIES

- A. Type: AMSCO Windows Studio Series.
1. Single Hung/Tilt:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC-PG35. Maximum size: 48 inches by 96 inches. / 48 inches by 84 inches. / 44 inches by 75 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 2. Horizontal Sliding:
 - a. Air Infiltration, ASTM E 283: Maximum 0.05 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG15 /LC-PG25/ LC-PG25 / LC-PG35. Maximum size: 144 inches by 72 inches / 96 inches by 60 inches / 72 inches by 72 inches / 72 inches by 60 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 3. Fixed Sash & Frame Picture Window, Direct Set:
 - a. Air Infiltration, ASTM E 283: Maximum 0.14 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: CW-PG35. Test Size: 120 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 4. Specialty:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05:
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
- B. Construction:
1. General:
 - a. Main Frame: Frame depth 3 inches. PVC extrusions, multi-chambered, fusion-welded construction, mitered corners and exterior beveled design.
 - b. Interlocking Panels: Interlocking panels and high-performance weather stripping.
 - c. Fixed/Deadlite Sash: PVC extrusions, fusion-welded construction, mitered corners and exterior beveled design permanently assembled/secured into main frame.
 - d. Vent Sash: PVC extrusions, fusion-welded construction, mitered corners, extruded vinyl finger pull rail on leading jamb or sill side of vent sash.
 2. Frame Style:
 - a. Nail Fin 3 inch frame depth with an integral 1-3/8 nail fin setback or integral 1 inch nail fin setback with optional stucco key for new or retrofit construction applications.
 3. Glazing System: Secured to sash frame using glazing tape and snap-in glazing bead color matched to exterior window finish. Factory exterior glazed except where field glazing is required due to large window unit dimensions. Units shall be re-glazeable without dismantling sash framing.
 4. Single Hung with Tilt Sash
 - a. Standard side load single hung.
 - b. Integral finger pulls on the bottom of the sash.

- c. Block and tackle balance system.
- 5. Horizontal Slider
 - a. Heavy-duty nylon rollers with a stainless steel axle.
 - b. Integral finger pulls on vent.
- 6. Picture/Fixed Windows
 - a. Direct set.
 - b. Equal site line options
- 7. Specialty Shapes
 - a. Round Tops
 - b. Arch Tops
 - c. Octagons
 - d. Full Circles
 - e. Half Circles
 - f. Quarter Circles
 - g. Quarter Angles
 - h. Trapezoids
 - i. Quarter Rectangles
 - j. Eyebrows
- 8. Window Screens:
 - a. Mesh: 18 x 16 fiberglass mesh secured with continuous vinyl gasket.
 - b. Frames: Roll form aluminum channel type.

C. Color:

- 1. Integral Vinyl Color:
 - a. White
 - b. Almond
 - c. Taupe
- 2. SuperCapSR Acrylic Color Cap:
 - a. Bronze
 - b. Black/Black
- 3. Painted Colors:
 - a. Black.
 - b. Cream.
 - c. Silver.
 - d. Gray.
 - e. Clay.
 - f. Green.
 - g. Red.
 - h. Olive.
 - i. Brown.
 - j. Dark Brown.
 - k. Bronze.
 - l. Forest Green.

- D. Glass: Nominal Thickness: Insulated 3/4 inch glass with warm edge spacers.
- 1. Type: Insulated, CōzE (Standard Low E Glass, Cardinal 270). Insulating value over 35 percent more efficient than clear insulated glass
 - 2. Type: Insulated, CōzE Tint (Low-E Glass, Cardinal 240). Blocks 84 percent of ultraviolet radiation.
 - 3. Type: Insulated, CōzE HV (Low-E Glass, Cardinal 366) triple-layer silver coating. Blocks 95 percent of ultraviolet radiation. Triple-layer silver coating.
 - 4. Type: Insulated, CōzE Vantage (Low-E Glass) Hard Coat Low E technology with Low E on two surfaces.
 - 5. Argon Fill: Provide insulated glass with argon gas fill.
 - 6. Bright Glass: Provide with glass designed to be easier to clean and to stay clean longer.

- E. Hardware:
 - 1. Window Sash Locks: Hardware color to match the interior vinyl color
 - a. Cam lock anchored with screws driven through the sash rail and into reinforcing bar.
 - b. SentryLock system hardware of engineered plastic with magnetic, positive action locking function and visual red stripe unlocked indicator. (replace above with "Positive action lock system hardware of engineered zinc")
 - 2. Weatherstripping: To AAMA 701/702.
- F. Grids:
 - 1. Surface-Applied Grids: Vinyl, simulated divided lite grids, 1 inch, surface applied, with aluminum, bronze, between-the-glass shadow bar grid, color matched to frame.
 - a. SLD 1 inch
 - 2. Airspace Grids: Aluminum 5/8 inch flat grids, 13/16 inch sculptured grids, and 1 inch sculptured grids sealed between the glass, color-matched to frame. Two-tone grids color-matched to SuperCapSR color cap vinyl frame colors.
 - a. Sculptured 3/4 inch
 - b. Flat 5/8 inch.
 - c. Flat 13/16 inch

2.4 VINYL WINDOWS – SERENITY SERIES

- A. Type: AMSCO Windows Serenity Series Sound Control Windows
 - 1. Single Hung:
 - a. Air Infiltration, ASTM E 283: 0.06
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC35. Maximum size: 48 inches by 84 inches. Minimum egress 30 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - e. STC: 40-47 based on glazing specified.
 - f. Exterior Wall Rating: 37-47 based on glazing specified.
 - g. Outdoor/Indoor Transmission Class: 27-35 based on glazing specified.
 - 2. Horizontal Sliding, Single Vent:
 - a. Air Infiltration, ASTM E 283: Maximum 0.08/0.04 cfm/ft2
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC-PG25/R20. Maximum size: 72 inches by 72 inches / Minimum egress 54 inches by 42 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - e. STC: 40-47 based on glazing specified.
 - f. Exterior Wall Rating: 37-47 based on glazing specified.
 - g. Outdoor/Indoor Transmission Class: 27-35 based on glazing specified.
 - 3. Horizontal Sliding, Double Vent:
 - a. Water Resistance, ASTM E 547:
 - b. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: LC-PG25/R20. Maximum size: 108 inches by 72 inches / Minimum egress 55 inches by 72 inches.
 - c. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - d. STC: 40-47 based on glazing specified.

- e. Exterior Wall Rating: 37-47 based on glazing specified.
- f. Outdoor/Indoor Transmission Class: 27-35 based on glazing specified.
- 4. Fixed Sash & Frame Picture Window, Direct Set:
 - a. Air Infiltration, ASTM E 283: Less than 0.01 cfm/ft²
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: C30. Test Size: 96 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - e. STC: 40-47 based on glazing specified.
 - f. Exterior Wall Rating: 37-47 based on glazing specified.
 - g. Outdoor/Indoor Transmission Class: 27-35 based on glazing specified.

B. Construction:

- 1. General:
 - a. Main Frame: Frame depth 5-5/8 inches. PVC extrusions, multi-chambered, fusion-welded construction, mitered corners and exterior beveled design.
 - b. Interlocking Panels: Interlocking panels and high-performance weather stripping.
 - c. Fixed/Deadlite Sash: PVC extrusions, fusion-welded construction, mitered corners and exterior beveled design permanently assembled/secured into main frame.
 - d. Vent Sash: PVC extrusions, fusion-welded construction, mitered corners, extruded vinyl finger pull rail on leading jamb or sill side of vent sash.
- 2. Frame Style:
 - a. Nail Fin 5-5/8 inch frame depth with an integral 1-3/8 inch nail fin setback for new construction applications.
- 3. Glazing System: Secured to sash frame using glazing tape and snap-in glazing bead color matched to exterior window finish. Factory exterior glazed except where field glazing is required due to large window unit dimensions. Units shall be re-glazeable without dismantling sash framing.
- 4. Single Hung with Tilt Sash
 - a. Standard side load single hung.
 - b. Integral finger pulls on the bottom of the sash.
 - c. Block and tackle balance system.
- 5. Horizontal Slider
 - a. Heavy-duty nylon rollers with a stainless steel axle.
 - b. Integral finger pulls on vent.
- 6. Picture/Fixed Windows
 - a. Direct set.
 - b. Equal site line options
- 7. Window Screens:
 - a. Mesh: 18 x 16 fiberglass mesh secured with continuous vinyl gasket.
 - b. Frames: Roll form aluminum channel type.

C. Color:

- 1. Integral Vinyl Color:
 - a. White
 - b. Almond
 - c. Taupe
- 2. Painted Colors:
 - a. Black.
 - b. Cream.
 - c. Silver.

- d. Gray.
- e. Clay.
- f. Green.
- g. Red.
- h. Olive.
- i. Brown.
- j. Dark Brown.
- k. Bronze.
- l. Forest Green.

- D. Glass: Nominal Thickness: Insulated 3/4 inch glass with warm edge spacers.
 - 1. Type: Insulated, CōzE (Standard Low E Glass, Cardinal 270). Insulating value over 35 percent more efficient than clear insulated glass
 - 2. Type: Insulated, CōzE Tint (Low-E Glass, Cardinal 240). Blocks 84 percent of ultraviolet radiation.
 - 3. Type: Insulated, CōzE HV (Low-E Glass, Cardinal 366) triple-layer silver coating. Blocks 95 percent of ultraviolet radiation. Triple-layer silver coating.
 - 4. Type: Insulated, CōzE Vantage (Low-E Glass) Hard Coat Low E technology with Low E on two surfaces.
 - 5. Argon Fill: Provide insulated glass with argon gas fill.
 - 6. Bright Glass: Provide with glass designed to be easier to clean and to stay clean longer.
- E. Hardware:
 - 1. Window Sash Locks: Hardware color to match the interior vinyl color
 - a. Positive action lock system hardware of engineered zinc.
 - 2. Weatherstripping: To AAMA 701/702.
- F. Grids:
 - 1. Airspace Grids: Aluminum 5/8 inch flat grids, color-matched to frame.

2.5 VINYL WINDOWS – VISTA SERIES

- A. Type: AMSCO Windows Vista Series.
 - 1. Single Hung:
 - a. Air Infiltration, ASTM E 283:
 - b. Water Resistance, ASTM E 547:
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG25. Maximum size 48 inches by 84 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 2. Horizontal Sliding:
 - a. Air Infiltration, ASTM E 283: Maximum 0.05 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: R-PG15/R-PG20. Maximum size 72 inches by 72 inches / 72 inches by 60 inches.)
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.
 - 3. Fixed Sash & Frame Picture Window, Direct Set:
 - a. Air Infiltration, ASTM E 283: Maximum 0.14 cfm/ft²
 - b. Water Resistance, ASTM E 547: No leakage when tested at 5.25 psf.
 - c. Structural Rating, AAMA/WDMA/CSA 101/I.S.2/A440-05: CW-PG35. Maximum 96 inches by 72 inches.
 - d. Forced Entry: Meets forced entry resistance performance per ASTM F 588.

- B. Construction:
1. General:
 - a. Main Frame: Frame depth 2-5/8 inches. PVC extrusions, hollow chambered, fusion-welded construction, mitered corners and exterior beveled design.
 - b. Interlocking Panels: Interlocking panels and high-performance weather stripping.
 - c. Fixed/Deadlite Sash: PVC extrusions, fusion-welded construction, mitered corners and exterior beveled design permanently assembled/secured into main frame.
 - d. Vent Sash: PVC extrusions, fusion-welded construction, mitered corners, extruded vinyl finger pull rail on leading jamb or sill side of vent sash.
 2. Frame Style:
 - a. Nail Fin 2-5/8 inch frame depth with an integral 1 inch nail fin setback for new construction applications, stucco key option available.
 3. Glazing System: Secured to sash frame using glazing tape and snap-in glazing bead color matched to exterior window finish. Factory exterior glazed except where field glazing is required due to large window unit dimensions. Units shall be re-glazeable without dismantling sash framing.
 4. Single Hung
 - a. Standard side load single hung.
 - b. Integral finger pulls on the bottom of the sash.
 - c. Block and tackle balance system.
 5. Horizontal Slider
 - a. Heavy-duty nylon rollers with a stainless steel axle.
 - b. Integral finger pulls on vent.
 6. Picture/Fixed Windows
 - a. Direct set.
 - b. Equal site line options
 7. Window Screens:
 - a. Mesh: 18 x 16 fiberglass mesh secured with continuous vinyl gasket.
 - b. Frames: Roll form aluminum channel type.
- C. Color:
1. Integral Vinyl Color:
 - a. White
 - b. Almond
 - c. Taupe
- D. Glass: Nominal Thickness: Insulated 3/4 inch glass with warm edge spacers.
1. Type: Insulated, CōzE (Standard Low E Glass, Cardinal 270). Insulating value over 35 percent more efficient than clear insulated glass
 2. Type: Insulated, CōzE Tint (Low-E Glass, Cardinal 240). Blocks 84 percent of ultraviolet radiation.
 3. Type: Insulated, CōzE HV (Low-E Glass, Cardinal 366) triple-layer silver coating. Blocks 95 percent of ultraviolet radiation. Triple-layer silver coating.
 4. Type: Insulated, CōzE Vantage (Low-E Glass) Hard Coat Low E technology with Low E on two surfaces.
 5. Argon Fill: Provide insulated glass with argon gas fill.
 6. Bright Glass: Provide with glass designed to be easier to clean and to stay clean longer.
- E. Hardware:
1. Window Sash Locks: Hardware color to match the interior vinyl color

- a. Cam lock anchored with screws driven through the sash rail and into reinforcing bar.
2. Vent Rollers: Nylon; adjustable tandem type.
3. Weatherstripping: To AAMA 701/702.

F. Grids:

1. Airspace Grids: Aluminum 5/8 inch flat grids, 13/16 inch sculptured grids, and 1 inch sculptured grids sealed between the glass, color-matched to frame.
 - a. Sculptured 3/4 inch
 - b. Flat 5/8 inch.
 - c. Flat 13/16 inch

2.6 MATERIALS - GENERAL

- A. Comply with requirement of AAMA/WDMA/CSA 101/I.S.2/A440-05 specifications for rigid (Poly Vinyl Chloride) PVC and related plastic building product compounds.
1. Patented PVC compound containing impact-resistant solid plasticizer titanium dioxide and calcium carbonate surface and color stabilizers.
 2. All solid color applications are to be homogeneous.
- B. Accessories:
1. Sealant: Provide sealant type recommended by window manufacturer for the joint size and movement, to remain permanently elastic, non-shrinking and non-migrating.
- C. Fasteners:
1. Stainless steel or other metallic or non-metallic material recommended by the manufacturer as non-corrosive and compatible with window member, trim, anchors and other components of the window units.
 2. Anchors, Clips, Window Accessories: Depending on strength and corrosion-inhibiting requirements, fabricate units of stainless steel or hot-dip zinc-coated steel or iron complying with ASTM A 386.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify rough opening sizes are of sufficient size to receive units and complies with manufacturer's requirements for opening clearances.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's Master Installation Method instructions for installation of window units, hardware, operator, accessories and other window components and with ASTM E 2112.
- B. Coordinate window installation work with work of other trades for proper time and sequence to avoid construction delays.
- C. Install windows plumb, level and square with 1/4 inch clearance on all sides and with weep holes at bottom. Opening panels must be closed and locked during installation
- D. Headers must not be nailed. Nail through the fin into framing along jambs and sill while staying 4 inches from corners. At the head, finishing nails may be placed 1/2 inch above fin and bent down over fin to allow for header deflection. Full support is required along entire length of sill.
- E. Accurately fit, align, securely fasten and install free from distortion or defects.
- F. Apply sealant around perimeter of units between nail fin and exterior sheathing of wall in accordance with manufacturer's instructions.
- G. Insulate perimeter of window frame with acceptable approved insulation material as recommended by window manufacturer. Do not use expansive foam insulation.
- H. Flash units in accordance with AAMA guidelines.

3.4 ADJUSTING

- A. Adjust operators and components for correct function and operation in accordance with manufacturer's written instructions.
- B. Lubricate moving parts to operate smoothly and fit accurately.
- C. Inspect latch for proper operation.
- D. After installation adjust door units for proper operation, without binding, sticking, or racking.
- E. Remove excess sealant materials and visible labels from glass. Clean glass surfaces promptly after installation.
- F. Initiate and maintain all protection and other precautions required to ensure windows are in acceptable condition at time of substantial completion.

3.5 CLEANING

- A. Vacuum clean tracks and remove any foreign debris that may affect smooth operation
- B. Remove protective covers and marking tapes from windows. Clean interior and exterior glass and surfaces of windows. Provide temporary window labels to Owner for safe keeping.
- C. Wash down surfaces with solution of mild detergent in warm water applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- D. Do not use petroleum-based distillates to clean windows.

- E. Remove any excess glazing and sealant compounds, dirt and other substances.
- F. Upon completion, remove surplus materials, rubbish, tools and equipment.

3.6 PROTECTION

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

3.7 SCHEDULES

A. North Elevation:

- 1. Opening No. W1: Size ___ by ___ inch (___ mm by ___ mm); _____ Series Vinyl Double-Hung Windows.
- 2.
- 3.

B. East Elevation:

- 1. Opening No. W10: Size ___ by ___ inch (___ mm by ___ mm); _____ Series Vinyl Double-Hung Windows.
- 2.
- 3.

END OF SECTION