



Section 08560

VINYL WINDOWS

GENERAL

1.1 SECTION INCLUDES

Single Hung Windows

1.2 RELATED SECTIONS

Section 06112 - Framing and Sheathing: Wood framed openings.

Section 07260 - Vapor Retarders: Perimeter vapor seal between window frame and adjacent construction.

Section 07270 - Air Barriers: Perimeter air seal between window frame and adjacent construction.

Section 07900 - Joint Sealers: Perimeter sealant and back-up materials.

Section 08800 - Glazing.

1.3 REFERENCES

AAMA/WDMA/CSA 101/I.S.2/A440-11 - Voluntary Specification for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.

AAMA 701/702 - Combined Voluntary Specifications for Pile Weather strip and Replaceable Fenestration Weather seals.

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

ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.

ASTM F 588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

ASTM F2090-21 - Standard Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms

ASTM E 1300 - Standard Practice for Determining the Minimum Thickness and Type of Glass.

NFRC 100 - Procedure for Determining Fenestration Product U-Factors.

NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.

NFRC 300 - Standard Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems.

NFRC 400 - Procedure for Determining Fenestration Product Air Leakage.

NFRC 500 - Condensation Resistance Test Reporting.

#### 1.4 SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Manufacturer's data sheets on each product to be used, including:

- a. Preparation instructions and recommendations.
- b. Storage and handling requirements and recommendations.
- c. Installation methods.

Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related Work; and installation requirements.

Verification Samples: For each product specified, two frame section samples, minimum size 12 inches (300 mm) square, representing actual product, color, and workmanship. Submit two samples of operating hardware.

Manufacturer's Certificates: Certify products meet or exceed specified requirements.

#### 1.5 QUALITY ASSURANCE

Manufacturer Qualifications: Company specializing in manufacturing PVC windows with minimum three years documented experience.

Installer Qualifications: Company specializing in installation of PVC windows with minimum three years documented experience.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

- a. Finish areas designated by Architect.
- b. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
- c. Refinish mock-up area as required to produce acceptable work.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

Store products in manufacturer's unopened packaging until ready for installation.

Store windows in an upright position, off ground.

Protect products from moisture, construction traffic and damage in according with manufacturer's printed instructions.

Do not use non-vented plastic or canvas shelters; open plastic wrapper immediately upon delivery to provide proper ventilation.

#### 1.7 PROJECT CONDITIONS

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.

#### 1.8 WARRANTY

20 year warranty on all vinyl parts for the original commercial purchaser.

10 year glass warranty for the original commercial purchaser.

### PRODUCTS

#### 1.9 MANUFACTURERS

Acceptable Manufacturer: Vector Windows, 1020 International Dr., Fergus Falls, MN 56537. Phone Toll Free: (800) 739-9899. Phone: (218) 739-9899. Fax: (888) 739-9799. Web Site: [www.vectorwindows.com](http://www.vectorwindows.com) e-mail: [support@vectorwindows.com](mailto:support@vectorwindows.com)

Substitutions: Not permitted.

Requests for substitutions will be considered in accordance with provisions of Section 01600.

#### 1.10 COMPONENTS GENERAL

Vinyl Extrusions: Multi-chamber extrusions of impact-resistant exterior-grade rigid polyvinylchloride (PVC) complying with AAMA 303.

Low E Sealed double strength, dual pane units with Argon Gas Fill Shall conform to ASTM E 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation (HIGS) and ASTM E 2649 - Standard Test Method for Determining Argon Concentration in Sealed Insulating Glass Units Using Spark Emission Spectroscopy

All windows shall be lockable and tested according to ASTM F 588 (Performance Level).

Screens: Installable from interior side, providing only ventilation and reasonable insect control when operable sash is in open position.

Operating Hardware: Appropriate types for specified operable-sash windows; sight-exposed hardware of UV-stabilized, engineered plastic; color matched to vinyl extrusions for uniform appearance.

Fasteners: Corrosion-resistant screws conforming to ASME B16.64.

Weatherstripping: Appropriate types for specified operable sash windows.

Integral Muntins: Aluminum pre-finished to match window frame and sash, factory-mounted between panes of insulating glass unit before sealing glass unit.

#### 1.11 ENVISION SINGLE HUNG WINDOWS

##### 1) Configurations:

- a) Single Units
  - i) Conform with AAMA/WDMA/CSA 101/I.S.2/A440-17 for VSSH-Single Hung vertical sliding sash with a Class R-PG35 overall grade rating.
  - ii) AAMA Rating: Class R-PG35 overall grade rating at 40" x 72".
- b) Double Units
  - i) Conform with AAMA/WDMA/CSA 101/I.S.2/A440-17 for VSSH-Single Hung vertical sliding sash with a Class R-PG40 overall grade rating.
  - ii) AAMA Rating: Class R-PG40 overall grade rating at 72" x 72".
- c) Triple (operating) Units.
  - i) Conform with AAMA/WDMA/CSA 101/I.S.2/A440-17 for VSSH-Single Hung vertical sliding sash with a Class R-PG50 overall grade rating.
  - ii) AAMA Rating: Class R-PG50 overall grade rating at 84" x 60".
- d) Triple (operating) Units.
  - i) Conform with AAMA/WDMA/CSA 101/I.S.2/A440-17 for VSSH-Single Hung vertical sliding sash with a Class R-PG40 overall grade rating.
  - ii) AAMA Rating: Class R-PG40 overall grade rating at 108" x 72"
- e) Frame and sash:
  - i) Mitered and fusion-welded corners; integral pre-punched nailing fin on all four sides.
  - ii) Integral weep system.
  - iii) Integral glazing provision
- f) Mullion Posts:
  - i) Extruded vinyl, color matching adjacent window frame.
  - ii) Provide exterior and interior trim accessories including dry wall receiver and vinyl dry wall return.
- g) Factory Glazing:
  - i) Insulating glass unit: ¾ inch, warm edge, insulating glass. Glass thickness determined by size or wind load and suction load requirements. Glass shall meet or exceed the valued given in ASTM E 1300 for the design pressure rating of the project.
  - ii) Outer pane:
    - (1) DS annealed glass
    - (2) Tempered glass.
    - (3) Clear
    - (4) Low-E
  - iii) Inner fill:
    - (1) Hermetically sealed by flexible organic warm edge spacers.
    - (2) Argon gas
  - iv) Inner Pane:
    - (1) Ds annealed glass
    - (2) Tempered glass
    - (3) Clear
- h) Internal Grilles:
  - i) Internal grilles, as selected by the architect from the manufacturers standard patterns.
- i) Operating Hardware:
  - i) Concealed sash lock and keeper hardware. Color coordinated with windows.

- j) Window Opening Control Devices (WOCD's):
  - i) Available to meet codes requiring ASTM F2090 Window Fall Prevention Devices.
- k) Weatherstripping:
  - i) Full sash perimeter, high-density silicone-treated wool pile, with vinyl interleaf and polymer seals meeting requirements of AAMA 701/702.
- l) Screens:
  - m) Flexible, removeable frame insect screen.
  - n) Color:
    - i) White
    - ii) Clay
    - iii) Almond
    - iv) Black Lamination

## EXECUTION

### 1.12 EXAMINATION

Do not begin installation until substrates have been properly prepared.

Verify that rough openings are as indicated and are correct sizes for clearance spaces specified in manufacturer's instructions.

Verify adjoining air and vapor seal materials are ready to receive Work specified.

If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 1.13 PREPARATION

Clean surfaces thoroughly prior to installation.

Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 1.14 INSTALLATION

Install in accordance with manufacturer's instructions.

Sill shall be adequately supported and leveled along its entire length.

Adequate header clearance shall be provided to avoid downward bowing caused by construction settlement.

Install products level, plumb and square; fasten to achieve maximum operational effectiveness and best appearance of units.

Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

Ensure that windows operate correctly, free from binding or other defects.

Provide thermal isolation where components penetrate or disrupt building insulation. Loosely pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

Coordinate attachment and seal of perimeter air and vapor barrier materials.

Install interior perimeter joint sealant across length of sill and extending min. 6" up each jamb.

Remove any labels from glass which can become firmly bonded when exposed to sun or which may be difficult to remove from exterior side of window.

Clean and restore soiled surfaces; remove scraps and debris, and leave site in clean condition.

#### 1.15 PROTECTION

Protect installed products until completion of project.

Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION