SECTION 08560

SERIES 235 CASEMENT VINYL WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Replacement Windows.

1. Casement windows

1.2 RELATED SECTIONS

A. Section 05450: Cold Formed Metal Framing.

B. Section 06100: Rough Carpentry.

C. Section 06200: Finish Carpentry.

D. Section 07460: Siding.

E. Section 07920: Joint Sealants.

1.3 REFERENCES

A. AAMA/WDMA/CSA 101/I.S.2/A440-17 North American Fenestration Standard / Specification For Windows, Doors, And Skylights.

B. CSA A440S1-19 – Canadian Supplement to AAMA/WDMA/CSA/I.S.2/A440-17

C. ASTM E 283-04 (2012) - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

D. ASTM E 330-14 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

E. ASTM E 2190-10 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units.

F. NFRC 100-2020 / 200-2020 – Procedure for Determining Fenestration Product U-Factors and Solar Heat Gain.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. 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.

C. Verification Samples: Provide 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.

D. Test Reports: Submit certified independent testing agency reports indicating window units meet or exceed specified performance requirements.

1.5 QUALITY ASSURANCE

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

B. Installer Qualifications: Utilize an installer having demonstrated experience on projects of similar size.

C. Provide window units independently tested and found to be in compliance with AAMA/WDMA/CSA 101/I.S.2/A440-17 performance standards listed above.

D. 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. Refinish mock-up area as required to produce acceptable work.

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 products in manufacturer's unopened packaging, out of direct sunlight or high temperature locations, until ready for installation.

1.7 PROJECT CONDITIONS

A. 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

A. Submit manufacturer's standard warranty against defects in workmanship and materials.
   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. The warranty period for commercial project work such as apartments, housing authorities and other buildings not used by individual homeowners is 10 years, covering all vinyl, glass and component parts. Consult warranty for complete details.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Crystal Window & Door Systems located at: 31-10 Whitestone Expressway, Flushing, NY 11354; Tel: 718.961.7300; Fax: 718.460.4594; Email: marketing@crystalwindows.com ; Web: www.crystalwindows.com

B. Substitutions: Not permitted.

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

D. Substitutions must be submitted to Architect two weeks prior to bid opening.

2.2 CASEMENT - CRYSTAL SERIES 235 (Replacement)

A. Performance:
1. Structural Rating: LC-PG50-C - Test Size: 32 inches x 60 inches in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-17, AAMA/WDMA/CSA 101/I.S.2/A440S1-19.
2. Air Test Performance Requirements:
   a. Air infiltration maximum 0.30 cfm per square foot at 1.57 psf pressure differential when tested in accordance with ASTM E283
   b. Air exfiltration maximum 0.30 cfm per square foot at 1.57 psf pressure differential when tested in accordance with ASTM E283
3. Water Test Performance Requirements:
   a. No uncontrolled water leakage at 7.52 psf static pressure differential when tested in accordance with ASTM E331 and ASTM E547.
4. Forced Entry: Grade 10 in accordance with ÅSTM F 588.
5. Thermal Transmittance: The following values are in accordance with NFRC 100.
   a. With Low-E / Argon: U-Factor - 0.26

B. Operation: Window shall open out from the house pivoting from one of the side jambs when the handle of the operator is cranked. Sash shall pivot at the jamb on two stainless steel hinges located at head and sill. Multi-point sash locks shall be located at the jamb and shall function to both secure the opening as well as ensure a tight sash to jamb weather-stripping compression.

C. Materials: All vinyl extrusions shall be rigid 100% virgin PVC. The frame, mullion, sash rails shall have a main wall thickness of 0.075”. Frame section shall have tubular hollows for strength and thermal efficiency. Sash profiles shall contain tubular hollows.

D. Frame construction: Frame shall be either fitted with a head expander and sill extension or stapled welded with nailing fin or J-trim. All corners shall be mitered and fusion welded for maximum strength and leak resistance. Frame depth shall be 3.25”.

E. Sash construction: All sash corners shall be mitered and fusion welded. Designer beveled sash. Window height over 40” shall have steel reinforcements at all vertical rails.

F. Glazing: Sash shall utilize 7/8” thick insulating glass consisting of two sheets of 1/8” thick argon filled Low-E glass in a desiccant-filled metal spacer system (intercept insulating unit). A butyl sealant shall be extruded around the entire perimeter of the spacer to achieve a seal. Sash shall be interior glazed, back bedded with silicone, and utilize dual durometer snap-in glazing beads.

G. Screen construction: Standard screen shall be a full screen. The screen frame shall be roll-

formed aluminum with all corners keyed. The screen mesh shall be charcoal fiberglass held-in-place with a flexible spline. The screen shall be held-in-place by snap-on clips at each screen jamb.

H. Hardware: Sash lock shall be multi-point lock with a single handle actuator. 300 series stainless steel hinges, roto type operator assembly. Dual arm operator will be standard for window width over 20”.

I. Weatherstripping: High-density woven pile shall be used in combination with continuous polyethylene rigid seal to minimize air infiltration.

J. Finish: Shall be solid vinyl in off white or beige.

K. Options: Grids – Colonial, Georgian, Applied, Prairie (Flat) and Diamond aluminum in-glass in white, beige or two tone colors are available. Glazing – triple glass, obscure wire, clear wire, obscure, clear annealed and tempered glass can be used. Field mulled or factory mulled units are available. Nailing fin can be used for new construction. Two tone colors are available.

PART 3 EXECUTION

3.1 EXAMINATION

A. Contractor must verify rough opening size is of sufficient size to receive window unit and complies with manufacturer's requirements for opening clearances.

B. Confirm that sill plate is level.

C. Architect must be notified of unacceptable conditions before proceeding with installation.

3.2 INSTALLATION

3.3 Contractor must install window unit in accordance with manufacturer's printed instructions.

A. Apply sealant around perimeter of window unit between nail fin and exterior sheathing of wall.

B. Install window unit 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.

C. Flash window in accordance with AAMA's "Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction".

D. Insulate between window frame and rough opening with suitable insulation.

3.4 ADJUSTING

A. Installer must adjust units for smooth operation without binding or racking.

B. Installer must adjust sash locks and screens for smooth operation.

3.5 CLEANING

A. Clean soiled surfaces and glass prior to substantial completion.

3.6 PROTECTION

A. Protect window unit from damage until substantial completion. Repair or replace damaged units.

END OF SECTION