

## **SECTION 08560**

### **VINYL WINDOWS**

#### **1. PART 1 – GENERAL**

##### **1.1 WORK INCLUDED:**

1. Provide labor, material, equipment and services to furnish and install vinyl louver/jalousie windows, slats and accessories as shown on drawings and specified herein. Window shapes and accessories specified and detailed will establish the unit and materials to be used to provide the functional performance and aesthetic requirements desired. Details indicate the required depth and profile.
2. Anchors, brackets, and attachments.
3. Hardware.

##### **1.2 RELATED WORK:**

1. Section 06200 - Finish Carpentry.
2. Section 07900 - Joint Sealers.
3. Section 08800 - Glass and Glazing.
4. Section 10240 - Security Screens.

##### **1.3 REFERENCES:**

1. AAMA/WDMA/CSA 101/I.S.2/A440 – North American Fenestration Standard/Specifications for Windows, Doors and Skylights
2. AAMA 1302.5 – Voluntary Specification for Forced-Entry Resistant Vinyl Prime Windows.
3. AAMA 101V (1986) – Poly Vinyl Chloride (PVC) Prime Windows.
4. ASTM B 221 – Aluminum and Aluminum-Alloy Extruded Bar, Rod, Wire, Profiles, and Tube.
5. ASTM B 209 – Aluminum and Aluminum-Alloy Sheet and Plate.
6. ASTM D 4099 (1999) – Poly Vinyl Chloride (PVC) Prime Windows.
7. ASTM E 283 – Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.

8. ASTM E 330 – Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
9. ASTM E 331 – Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
10. ASTM E 547 – Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential.
11. NFRC-100: 2001 – Procedure for Determining Fenestration Product U-Factors.

#### **1.4 PERFORMANCE:**

1. Manufacturers bidding this project must submit certified test reports by an independent third party AAMA certified testing laboratory documenting that a comparable window of approximately the same size as the windows on this job has been tested to AAMA/WDMA/CSA 101/I.S.2/A440 or NAFS-1 or NAFS-2 standard or equivalent ASTM testing criteria:
2. Manufacturers bidding this project must submit certified documentation from an independent, nationally recognized testing organization validating that the Poly Vinyl Chloride (PVC) used in the product meets the requirements of AAMA 101V or that the product complies with ASTM D 4099 as specified will be deemed to be acceptable in lieu of AAMA product labeling.

#### **1.5 SUBMITTALS:**

1. All shop drawings and product data to be provided by window installer. Prior to the submission of shop drawings, window installer must field verify existing window openings. Prior to manufacturing, the window installer must submit complete shop drawings showing installation details for architect's approval.
2. These drawings must show elevations of windows, full sized details of all sections of windows, collateral materials, details of anchorage and hardware. Supplemental data must include instructions for storage, handling and erection of windows. Calculations for window anchors shall be based upon window design pressure of 40 pounds per square foot.
3. Submit sample mock-up of the vinyl window and screen, minimum size of approximately 16" x 16" shall be submitted for approval by the authority before installation. The authority has the prerogative to dismantle the sample for inspection and evaluation. Material not approved shall not be used in the project and furthermore, shall be subject to removal at Contractor's expense if installed.

## **1.6 DELIVERY, STORAGE AND HANDLING:**

1. Deliver and handle system in accordance with industry standards. Windows should be delivered to the jobsite in undamaged condition. Use care in handling and hoisting windows during transport and at the job site.
2. Store and protect system components in accordance with industry standards. Store windows and components out of contact with the ground, under a weather tight covering and with no direct sunlight. The storage area must have adequate ventilation and be kept at an ambient temperature. Keep vinyl windows upright and allow spacing for ventilation between windows. Repair damaged windows to an "as new" condition as approved. Provide new units if windows cannot be repaired.

## **1.7 WARRANTY:**

1. Tradewind standard warranty or approved equal.

## **2. PART 2 – PRODUCTS**

### **2.1 MANUFACTURERS**

1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. The Architect will consider comparable products by alternate manufacturers listed, and request for substitutions, under the provisions of Section 01610.

### **2.2 VINYL WINDOWS – JALOUSIE/LOUVER**

1. Manufacturer: RMA Sales or approved equal.
2. Type: Louvered Jalousie Window.
3. Series: Tradewind Vinyl – Full Surround.
4. Material: Principal frame and sash sections must be extruded PVC.
5. Construction:
  1. Size/Profile: 4 5/8" nominal frame depth.
  2. Frame Construction: Extruded sill with weeping system that allows for complete water drainage to the exterior.
  3. Weatherstripping: Manufacturer's standard to comply with AAMA 701.2.
  4. Glazing: Glass to be field installed per manufacturer's specifications.
  5. Hardware: Manufacturer's standard.
6. Performance Rating:
  1. Air Infiltration: Assembly limited to 1.2 CFM/SQ. FT. at 1.57 PSF when tested in accordance with ASTM E 283.

2. Water Infiltration: No water penetration of assembly when subjected to 5 gallons per SQ.FT. per hour at 3.75 PSF when tested in accordance with ASTM E 547.
  3. Uniform Structural Test Pressures: No glass breakage, permanent fastener or hardware damage or permanent deformation of any member in excess of 0.4 % of its span at 45 PSF when tested in accordance with ASTM E 330.
7. Hardware and Accessories:
1. Locking Device: Manufacturers standard locking mechanism. All pivoting mechanisms enclosed.
  2. Hardware Channels: All hardware channels to be of the extruded vinyl enclosed channel type. Channels to be White or Almond color finish.
  3. Hardware Blade clips to be of injection molded ultra-violet stabilized polypropylene, each with two integral pivot studs on the back surface. Clips must be  $\frac{3}{4}$ " wide to accommodate the  $\frac{3}{4}$ " PVC vinyl jalousie blades or  $\frac{1}{4}$ " wide to accommodate  $\frac{1}{4}$ " glass blades.
  4. Operating lever to be of heavy duty type, 6061-T6 aluminum  $\frac{1}{8}$ " minimum thickness and be self locking over center travel type. Operating levers to have eye cutouts lined with an injection molded smooth insert to facilitate hand or pole operation. No more than 7-4" slats or 5-6" slats shall be operated by one lever.
  5. Hardware to be mounted against inside of vinyl frame heights, located near inside edge against raised vinyl shoulder.
8. Vinyl Slats:
1. Extruded PVC slats, 4" wide x  $\frac{3}{4}$ " thick with stiffening ribs.
  2. Minimum slat exterior wall thickness: 0.045".
  3. Minimum stiffening rib thickness: 0.030"
  4. Approximate weight per foot: 5.5 oz. Per lineal foot (without external reinforcement).
  5. PVC material shall be fire retardant, self extinguishing and provided with an ultraviolet inhibitor.
  6. Slats shall have an integral flexible vinyl weatherstrip at each interlocking groove.
  7. Color of the blades shall be extending throughout the PVC material, white or almond.
  8. Glass Vanes: Shall be 4" or 6" wide by  $\frac{1}{4}$ " thick with exposed edges weberized or polished.
  9. Vinyl slats longer than 36" in length shall be provided with a minimum of one (1) internal steel reinforcing rib fitted between the stiffening ribs nearest the middle of the slat.
  10. Steel reinforcing ribs shall be galvanized.
  11. Internal steel ribs shall be of sufficient cross section and thickness such that when the slat is laid flat between two end supports, it shall

be able to support a 40 pound weight suspended from its midspan with a maximum deflection of 7/8" (0.875").

9. Screens:
  1. Screens to be interior flush mounted, removable from the interior, utilizing screen corners with pivot clips to hold screen in place.
  2. Screen fabric shall be 18 x 16 or 18 x 14 charcoal mesh and charcoal in color, rolled in place using vinyl splines.
  3. Heavy duty, aluminum rolled formed .025 thick type frames shall be used. Finish to be white painted. Corners shall be square cut with plastic corner reinforcing inserts to prevent electrolytic action.
  4. Frames over 4' high shall have a horizontal spacer bar dividing screen into equal sections.

## **2.3 FABRICATION:**

### **VINYL WINDOWS – JALOUSIE / LOUVER**

1. Construction – Frames: Frames must be constructed of continuous extrusions. All corners should be mitered and thermally fused to ensure a tight joint. Overall frame depth must be 4 5/8" deep to permit the use of 4" or 6" slats without interference with screen. All frames to have integral mulling grooves permitting multiple back-to-back mounting. All frames to have integral flange located 4" from inside edge so as to finish flush with interior dry wall surface on standard 2" x 4" wall eliminating the need for drywall returns. Head and sill to have 5/8" high water baffle with integral soft vinyl seal.
2. Construction - Mullions and Transom Bars: Provide transom bars and mullions between multiple window units which meet the design pressure of 20 pounds per square foot (psf). Provide mullion covers on the interior and exterior to completely close exposed joint and recesses between window units and to present a neat appearance.
3. Construction – Combination Windows: Windows provided in combination shall be factory assembled. No combination windows shall exceed 49 square feet without written approval from manufacturer.
4. Construction – Sealants: The window manufacturer must seal exposed screws that could cause water leakage with a high quality seam sealer. All joints that could cause the unit to leak need to be sealed with an appropriate sealant during assembly by the window manufacturer.
5. All fixed windows to be factory-glazed by the manufacturer and shipped fully-assembled to the job site to ensure product integrity, quality and warranty. Louver/Jalousie blades to be installed at the jobsite to minimize damage.

## **3. PART 3 – EXECUTION**

### **3.1 SURFACE CONDITIONS:**

1. Prior to work in this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
2. Verify that the work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
3. In the event of discrepancy, immediately notify the Architect.
4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

### **3.2 INSTALLATION:**

1. Install windows, frames, glazing and hardware in accordance with manufacturer's instructions and approved shop drawings.
2. Use anchorage devices to securely attach frame assembly to structure.
3. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
4. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of infiltration barrier.
5. Install hardware using templates if not already factory installed.
6. Install perimeter sealant, backing materials, in accordance with Section 07900.
7. Adjust operating hardware including ventilators and hardware to operate smoothly and to provide weathertight sealing when ventilators are closed and locked. After installation, lubricate hardware and operating parts as necessary and per manufacturer's instructions.
8. It is imperative that the installer takes all precautions to keep construction materials containing dissimilar metals from coming in contact with each other. It may be necessary to isolate dissimilar metals by using blocking, bituminous paint, or other appropriate measures. All fasteners used for the installation are to be non-metallic stainless steel.

### **3.3 SEALANTS:**

1. Seal joints between windows and surrounding construction.
2. Joints and surfaces to receive sealants must be clean, free from loose material, free of efflorescence or mortar leaking, and dry. Sealants will not be applied when temperature is below manufacturer's recommendations.
3. Clean joints and surfaces before sealing or priming in conformance with manufacturer's instructions.
4. Prime joints in conformance with material manufacturer's instructions.
5. Provide joint backing in all joints where a suitable backstop to receive sealant is otherwise not available.
  1. Pack joints with joint backing to provide depth equal to 50% of width. Caulk joint width will not be less than ¼" and not more than ½" unless recommended otherwise by the manufacturer.

### **3.4 CLEANING:**

1. The general contractor will be responsible for protection of the work from damage by other trades and final cleaning.
2. Remove protective material from all window surfaces.
3. Wash down exposed surfaces using a solution of mild detergent in warm water, applied with soft clean wiping cloths. Take care to remove dirt from corners and clean all weep holes. Wipe surfaces clean.
4. Remove excess sealant by moderate use of VOC approved cleaner acceptable to sealant manufacturer.

**END OF SECTION**