

## **SECTION 08 54 13**

### **FIBERGLASS FIXED FRAME WINDOWS**

#### **PART 1 GENERAL**

##### **1.1 REFERENCES**

- A. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 502 - Voluntary Specification for Field Testing of Windows and Sliding Doors.
  - 2. AAMA 623 - Voluntary Performance Requirements and Test Procedures for Organic Coatings on Fiber Reinforced Thermoset Profiles.
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM C 1036 - Flat Glass.
  - 2. ASTM C 1048 - Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
  - 3. ASTM E 283 - Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Difference Across the Specimen.
  - 4. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential.
  - 5. ASTM E 1105 – Standard Test Method for Field Determination of Water Penetration of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
- C. Window and Door Manufacturers Association (WDMA):
  - 1. ANSI/AAMA/NWWDA 101/I.S.2 - Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.

##### **1.2 PERFORMANCE REQUIREMENTS**

- A. Window Air Leakage, ASTM E 283: Window air leakage when tested at 1.57 psf (25 mph) shall be 0.25 cfm/ft<sup>2</sup> of frame or less.
- B. Window Water Penetration, ASTM E 547: No water penetration through window when tested under static pressure of 7.5 psf (54 mph) after 4 cycles of 5 minutes each, with water being applied at a rate of 5 gallons per hour per square foot.

##### **1.3 SUBMITTALS**

- A. Submit in accordance with Division 1 requirements.
- B. Product Data: Submit manufacturer's product data, including installation instructions.

##### **1.4 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver materials to site undamaged in manufacturer's or sales branch's original, unopened containers and packaging, with labels clearly identifying manufacturer and product name. Include installation instructions.
- B. Storage:
  - 1. Store materials in accordance with manufacturer's instructions.
  - 2. Store materials off ground and under cover.

3. Protect materials from weather, direct sunlight, and construction activities.
- C. Handling: Protect materials and finish during handling and installation to prevent damage.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Pella Corporation, 102 Main Street, Pella, Iowa 50219. Toll Free (800) 54-PELLA. Phone (641) 621-1000. Website [www.pella.com](http://www.pella.com).

### **2.2 FIBERGLASS FIXED FRAME WINDOWS**

- A. Fixed Frame Windows: Pella Impervia.
1. Factory-assembled fixed frame window.
  2. Frame Material: Duracast. 5-layer, pultruded-fiberglass material, reinforced with interlocking mat.
- B. Frame:
1. Type: Block frame.
  2. Interior and Exterior Frame: Pultruded, fiberglass composite [with foam inserts].
  3. Overall Frame Depth: 3 inches.
  4. Nominal Wall Thickness of Fiberglass Members: 0.050 inch to 0.080 inch.
  5. Frame Corners:
    - a. Mitered.
    - b. Joined and bonded with thermoset polyurethane adhesive, nylon corner lock, and mechanically fastened.
  6. Frame can be installed with glazing stop on interior or exterior (unit can be flipped to install in either direction).
  7. Jambs: Contain optional factory-drilled, counter-bored, installation screw holes.
  8. Head and Sill: Contain optional factory-drilled, counter-bored, installation screw holes.
- C. Glazing:
1. Float Glass: ASTM C 1036, Quality 1.
    - a. Tempered Glass: ASTM C 1048.
  2. Type: Polyurethane reactive (PUR) hot-melt glazed, 1-inch thick, insulating glass, multi-layer Low-E coated with argon tempered.

### **2.4 TOLERANCES**

- A. Windows shall accommodate the following opening tolerances:
1. Vertical Dimensions Between High and Low Points: Plus 1/4-inch, minus 0 inch.
  2. Width Dimensions: Plus 1/4-inch, minus 0 inch.
  3. Building Columns or Masonry Openings: Plus or minus 1/4-inch from plumb.

## **2.5 FINISH**

- A. Exterior and Interior Duracast Finish: Factory-applied powder-coat paint, comply with AAMA 623.

## **2.6 INSTALLATION ACCESSORIES**

- A. Flashing/Sealant Tape: Pella SmartFlash.
  - 1. Aluminum-foil-backed butyl window and door flashing tape.
  - 2. Maximum Total Thickness: 0.013 inch.
  - 3. UV resistant.
  - 4. Verify sealant compatibility with sealant manufacturer.
- B. Interior Insulating-Foam Sealant: Low-expansion, low-pressure polyurethane insulating window and door foam sealant.
- C. Exterior Perimeter Sealant: "Pella Window and Door Installation Sealant" or equivalent high quality, multi-purpose sealant as specified in the joints sealant section.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine areas to receive windows. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

### **3.2 INSTALLATION**

- A. Install windows in accordance with manufacturer's instructions.
- B. Install windows to be weather-tight.
- C. Maintain alignment with adjacent work.
- D. Secure assembly to framed openings, plumb and square, without distortion.

### **3.4 CLEANING**

- A. Clean window frames and glass in accordance with Division 1 requirements.
- B. Do not use harsh cleaning materials or methods that would damage finish or glass.
- C. Remove labels and visible markings.

### **3.5 PROTECTION**

- A. Protect installed windows to ensure that, except for normal weathering, windows will be without damage or deterioration at time of substantial completion.

## **END OF SECTION**