

**DIAMOND 7000 SERIES  
PICTURE WINDOW  
MODEL 7200 SPECIFICATION**

*\*TO FINISH SPECIFICATION: 1. Read then delete comments in \*stars\*. 2. Add or delete options in (parentheses). 3. Replace preceding standards with options in [brackets] or delete options in [brackets]. 4. Revise paragraph numbers and/or letters, as necessary.\**

**SECTION 08520 ALUMINUM WINDOWS (AAMA AW-105)**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

- A. Material: aluminum windows and related components as on the drawings and specified in this section.
- B. Installation: all labor, materials, tools, equipment, and services needed to furnish and install aluminum windows.
- C. Glass and glazing.

**(1.02 PRODUCTS FURNISHED BUT NOT INSTALLED)**

*\*Enter description, e.g., extra glass units to be supplied and stored for the future\**

**(1.03 PRODUCTS INSTALLED BUT NOT FURNISHED)**

*\*Enter description, e.g., louver supplied by others to be installed in new window\**

1.04 RELATED SECTIONS - Section 07900 - Sealants

1.05 REFERENCES

- A. AAMA - American Architectural Manufacturers Association
  - 1. AAMA/NWWDA/CSA 101/I.S.2-A440-08, NAFS - “North American Fenestration Standard/Specification for Windows, Doors and Skylights”
  - 2. AAMA 901 “Voluntary “Life Cycle” Specifications and Test methods for Architectural Grade Windows and Sliding Glass Doors”
  - 3. AAMA 502-02 "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors"
  - 4. AAMA 611-98 "Voluntary Specification for Anodized Architectural Aluminum"
  - 5. AAMA 800-92 "Voluntary Specifications and Test Methods for Sealants"
  - 6. AAMA 910-93 “Voluntary ‘Life Cycle’ Specifications and Test Methods for Architectural Grade Windows and Sliding Glass Doors”

7. AAMA 1503-98 "Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections"
  8. AAMA 2603-02 "Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels"
  9. AAMA 2604-02 "Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels"
  10. AAMA 2605-02 "Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels"
  11. AAMA CW-10-97 "Care and Handling of Architectural Aluminum from Shop to Site"
- C. ASTM - American Society for Testing and Materials
1. ASTM E 283-99 "Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors"
  2. ASTM E 330-97 "Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference"
  3. ASTM E 331-00 "Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference"
  4. ASTM E 774-00 "Specification for Sealed Insulating Glass Units"

## 1.06 SYSTEM DESCRIPTION

- A. AAMA Designation: F-AW-105.
- B. Windows: 4" frame depth; extruded aluminum with integral structural thermo-strut thermally broken frame members; equal-leg [flange] frame; finish factory-applied; frames factory-assembled.
- C. Configuration: fixed; glazing beads on interior.
- D. Glazing: exterior tape; silicone toe bead; 1" insulating glass; silicone heel bead; EPDM gasket; interior aluminum glazing bead; glass description in paragraph 2.04; factory-glazed.

## 1.07 PERFORMANCE REQUIREMENTS

- A. Conformance to F-AW105 specifications in AAMA/NWWDA/CSA 101/I.S.2-A440-08, NAFS - "North American Fenestration Standard/Specification for Windows, Doors and Skylights" when tests are performed on the prescribed 60" x 99" minimum test size with

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the following test results:

1. Air Infiltration: maximum .01 cfm/square foot when tested per ASTM E 283-99 at a static air pressure difference of 6.24 psf.
  2. Water Penetration: no uncontrolled water leakage when tested per ASTM E 331-00 at a static air pressure difference of 15.04 psf.
  3. Uniform Deflection: no more than L/175 when tested per ASTM E 330-97 at a static air pressure difference of 105 psf.
  4. Uniform Structural Load: no glass breakage or permanent damage to fasteners, and maximum .2% permanent deformation of the span of any frame member when tested per ASTM E 330-97 at a static air pressure difference of 105 psf.
- B. Thermal testing per NFRC 100,200,500, glazed with 1” insulating glass made with 1/8” clear and 1/8
1. Thermal Transmittance: maximum (per glazing selection) BTU/HR/SQ.FT/F U value.
  2. Spectral performance - SHGC (per glazing selection)
  3. Spectral performance - VLT(per glazing selection)

#### 1.08 SUBMITTALS

- A. Shop drawings: elevations, floor plans, or window location chart; typical window elevations; scaled details of composite members and components not in manufacturer's data; and glazing details for factory-glazed units.
- B. Product data: manufacturer's specifications, test reports from an AAMA-accredited laboratory, and standard details verifying conformance with specifications.
- C. Samples: one sample of each specified finish for aluminum and other samples as requested by the architect.

#### 1.09 QUALITY ASSURANCE

- A. Submit for prebid approval ten days prior to bid opening a sample window representing the bid window except for color and valid test reports from an AAMA-accredited laboratory conforming to test results in Paragraph 1.07.
- B. Acceptance will be by addendum only as no verbal approvals will be allowed.
- C. Submit bid on prequalified products in prebid written addendum. Bidder must identify manufacturer and model of product on which the bid is based.
- D. Furnish visible, permanent IGCC certification labels for the CBA rating level on double insulating glass units.

E. Manufacturer's warranties:

1. Windows: warrant for one year against defects in material or workmanship under normal use.
2. Insulating glass units: warrant seal for five years *\*Contact DIAMOND WINDOW for other time frames\** against visual obstruction from film formation or moisture collection between internal glass surfaces, excluding that caused by glass breakage or abuse.
3. Paint finish: PPG...

*\*Enter the following for an AAMA 2605 70% fluoropolymer paint finish\**

...Duramar™ organic finish conforming to AAMA 2605-02: warrant for fifteen years against chipping, peeling, cracking, chalking, or fading.

*\*Or enter the following for an AAMA 2604 50% fluoropolymer paint finish\**

...Acrynar FX™ organic finish conforming to AAMA 2604-02: warrant for ten years against chipping, peeling, cracking, chalking, or fading.

*\*Or enter the following for an AAMA 2603 acrylic paint finish\**

...Duracron™ organic finish conforming to AAMA 2603-02: warrant for five years against chipping, peeling, or cracking.

(G. Project Survey: *\*Contact DIAMOND WINDOW to register before project bid date\** by installer and manufacturer's representatives; one year after date of completion; to recommend maintenance procedures.)

1.10 DELIVERY, STORAGE, AND HANDLING - Handle and protect windows and accessories in accordance with AAMA CW-10-97 until project completion.

## **PART 2 - PRODUCTS**

### 2.01 MANUFACTURERS

- A. DIAMOND WINDOW 7200 Fixed Thermal Aluminum Window
- B. Other acceptable manufacturers who have demonstrated a successful history of manufacturing for *\*Enter number\** years equivalent products:
  1. *\*Enter appropriate information as required\**
  2. *\*Enter appropriate information as required\**

2.02 MATERIALS - Aluminum extrusions: produced from commercial quality 6063-T5 alloy; free from defects impairing strength and durability.

## 2.03 FABRICATION

- A. Frame: joined with two stainless steel screws per corner.
- B. Frame joints: factory-sealed with die cut 1/8" foam gaskets and sealant conforming to AAMA 800-92.
- C. Water control: frame weeps and foam baffles to allow water to drain by gravity and resist wind-driven water.

## 2.04 DOUBLE INSULATING GLASS UNITS

### A. Performance

- 1. Dual-seal durability: conformance to ASTM E 774-00; visible, permanent IGCC certification label for CBA rating level.

(2. Other: *\*Enter U value, etc., information as required\**)

### B. Exterior glass lite

- 1. Thickness: 1/8" [3/16"] [1/4"].
- 2. Tint: clear [bronze] [gray].
- 3. Type: annealed [tempered] [laminated *\*Enter interlayer and lite descriptions\**].

(4. Coating: solar-reflective.)

### C. Interior glass lite

- 1. Thickness: 1/8" [3/16"] [1/4"].
- 2. Tint: clear [pattern #62 obscure].
- 3. Type: annealed [tempered] [laminated *\*Enter interlayer and lite descriptions\**].

(4. Coating: hard coat low E on #3 surface.)

## [2.04 TRIPLE INSULATING GLASS UNITS]

### A. Performance: *\*Enter U value, etc., information as required\**

### B. Exterior glass lite

- 1. Thickness: 1/8" [3/16"].
- 2. Tint: clear [bronze] [gray].

3. Type: annealed [tempered].
- C. Internal film: Heat Mirror™ #SC75.
- D. Interior glass lite
1. Thickness: 1/8" [3/16"].
  2. Tint: clear [pattern #62 obscure].
  3. Type: annealed [tempered].

## 2.05 FINISH ON ALUMINUM EXTRUSIONS

- A. Application: on clean extrusions free from serious surface blemishes or scratches; on exposed surfaces visible when the installed product's operating sash are closed.

*\*Enter the following for an AAMA 2605 70% fluoropolymer paint finish\**

- B. Coating: PPG Duranar™ with resin containing 70% fluoropolymer; thermosetting; alternative finishes will not be acceptable.
- C. Quality standard: conforming to AAMA 2605-02, including 10 years Florida exposure and 4000 hours humidity tests.
- D. Pretreatment: five-stage; zinc chromate conversion coating.
- E. Application: electrostatic spray and oven bake by approved applicator.
- F. Coating quantity: minimum one primer coat and one color coat.
- G. Dry film thickness: minimum 1.2 mils on exposed surfaces, except inside corners and channels.
- H. Color: chosen from manufacturer's standards.

(I. Additional different interior finish and color: subject to manufacturer's approval.)

*\*Or enter the following for an AAMA 2604 50% fluoropolymer paint finish\**

- B. Coating: PPG Acrynar FX™ with resin containing 50% fluoropolymer; thermosetting; alternative finishes will not be acceptable.
- C. Quality standard: conforming to AAMA 2604-02, including 5 years Florida exposure and 3000 hours humidity tests.
- D. Pretreatment: five-stage; zinc chromate conversion coating.

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- E. Application: electrostatic spray and oven bake by approved applicator.
- F. Coating quantity: minimum one primer coat and one color coat.
- G. Dry film thickness: minimum 1.4 mils on exposed surfaces, except inside corners and channels.
- H. Color: chosen from manufacturer's standards.
- (I. Additional different interior finish and color: subject to manufacturer's approval.)

*\*Or enter the following for an AAMA 2603 acrylic paint finish\**

- B. Coating: PPG Duracron™ with acrylic resin; thermosetting.
- C. Quality standard: conforming to AAMA 2603-02, including 1 year Florida exposure and 1500 hours humidity tests.
- D. Pretreatment: five-stage; zinc chromate conversion coating.
- E. Application: electrostatic spray and oven bake by approved applicator.
- F. Coating quantity: one color coat.
- G. Dry film thickness: minimum .8 mils on exposed surfaces, except inside corners and channels.
- H. Color: chosen from manufacturer's standards.

*\*Or enter the following for an AAMA 611 clear anodize finish\**

- B. Coating: clear anodize.
- C. Quality standard: conforming to AAMA 611-98.
- D. Thickness: AAM10C22A41 Class I - .7 mils #215 [AAM10C22A31 Class II - .4 mils #204].

*\*Or enter the following for an AAMA 611 color anodize finish\**

- B. Coating: color anodize.
- C. Quality standard: conforming to AAMA 611-98.
- D. Thickness: AAM10C22A44 Class I - .7 mils.
- E. Color: #313 dark bronze [#311 light bronze] [#312 medium bronze] [#315 black].

(2.06 INSTALLATION ACCESSORIES)

- A. Material: extruded aluminum; nominal .062” wall; with exposed surfaces finished to match window color and finish performance; concealed fasteners; required weatherseals; designed for unrestricted expansion and contraction.
- B. Exterior: (wrap around panning;) (preset panning;) (two-piece mullion cover;) (two-piece head and jamb receptor with thermal break;) (subsill with thermal break and end dams;) (sill cover;) (slip-on expanders).
- C. Interior: (two-piece snap trim;) (stool cover).
- D. Mullions: with thermal break; (stack;) (offset stack;) (three-piece).

### **PART 3 - EXECUTION**

3.01 PREPARATION - Prepare openings to be in tolerance, plumb, level, provide for secure anchoring, and in accordance with approved shop drawings.

#### 3.02 INSTALLATION

- A. Install windows in accordance with manufacturer's recommendations and approved shop drawings with skilled craftspeople who have demonstrated a successful history of installing windows for *\*Enter number\** years.
- B. Provide required support and securely fasten and set windows plumb, square, and level without twist or bow.
- C. Apply sealant per sealant manufacturer's recommendations at joints, wipe off excess, and leave exposed sealant surfaces clean and smooth.

#### (3.03 FIELD TESTING)

- A. Test installed units in conformance with AAMA 502-02 minimum requirements for air and water infiltration with the window manufacturer, contractor, and owner present.
- B. Select test units as directed by the owner's representative and use an AAMA-accredited laboratory provided by the owner or contractor.

3.04 ADJUSTING AND CLEANING - Adjust windows as necessary for weathertightness, and leave windows clean and free of construction debris.

END OF SECTION