Model 1500 Fixed Window Wall System
Rating F-AW-180

GUIDE SPECIFICATION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish and install commercial grade windows complete with hardware and related components as shown on drawings and specified in this section.
B. All windows shall be Starline Series 1500 AW-180 thermal fixed window wall system. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
1. Actual window sample identified by manufacturer's series number and AAMA/ANSI designation.
2. Letter of conformance to this specification from manufacturer.
3. Certified test reports for structural, air and water which meet the designated exterior wall design pressure of the project. Test reports for thermal and sound transmission.
4.Product Data: Manufacturer’s product details including wall thicknesses, glazing methods and provisions for drainage.
5. All products shall conform to the 2003 International Building Code requirements for windbourne debris in coastal applications.
C. Glass and Glazing - specify type of glass in this section if windows are to be factory glazed by manufacturer. Glass and glazing by others should be specified in Section 08800.

1.02 RELATED SECTIONS

A. Section 08800....Glass and Glazing

B. Section 07920.....Perimeter Sealants

C. Other.....(louvres, panels, steel, insulation, etc.)

1.03 REFERENCES

A. American Society for Testing Materials (ASTM).
1. ASTM E1886-97: “Standard test method for performance of exterior windows, curtain walls, doors and storm shutters impacted by missile(s) and exposed to cyclic pressure differentials.”
2. ASTM E1996 02: “Standard specification for performance of exterior windows, curtain wall, doors and storm shutters impacted by windbourne debris in hurricanes,” for a +100/-140 psf design load rating

1.04 SYSTEM REQUIREMENTS

A. General Standard: In addition to requirements shown or specified, comply with applicable ANSI/AAMA/NWWDA 101/I.S. 2-97 for design of materials, fabrication and installation of component parts.

B. Design Requirements
1. Drawings are diagrammatic and do not purport to identify or solve problems of thermal or structural movement, glazing, anchorage or moisture disposal.
2. Project shop drawings are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.

C. Performance Requirement
1. Air Infiltration: Air leakage shall not exceed 0.37 cfm/ft of sash crack when tested in accordance with ASTM E283 at a static air pressure difference of 6.24 psf.
2. Water Infiltration: No uncontrolled leakage when tested in accordance with ASTM E547 at a test pressure of 15 psf.
3. Design units so that no frame assembly fasteners are exposed on the exterior and interior face of the window.

D.Structural Requirements
In accordance with ASTM E330 on a test size of 5' 0" W x 8' 0" H at a static test pressure difference of 97.5 psf both exterior and interior pressure applied. There shall be no glass breakage or permanent damage to the window which would cause it to be inoperable.

E. Thermal Requirements
1. Meet AAMA minimum thermal specification for heavy commercial grade windows, CRF and U-values vary with the use of various types of glass substrates and airspaces.

F. Forced Entry Resistance (FER): When tested in accordance with AAMA 1302.5, there shall be no entry.

1.05 FABRICATION

A. General.
   1. Framing of fixed windows to be a minimum of 4.25" in depth.
   2. Frame head and jambs shall have a minimum wall thickness of .125"
   3. Framing to include integral keys for attachment of anchor straps which eliminate the need for installing large installation fastener through the window frame.
   4. Provide a minimum of (2) gated sill weeps to allow any water to drain by gravity and also to provide ventilation to protect the sealant at the glass edge from any dew or condensation held by the sealant by surface tension.
   5. Where multiple units are required, provide structural calculations that vertical mullion points meet the project design pressures.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver units with cardboard corners to protect finished surfaces during delivery and when stored at site.

B. Store windows in an upright position, off ground.

C. 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.

D.The general contractor shall be responsible for protecting the windows and their finish from damage by the elements, construction activities and other hazards before, during and after installation.

1.07 PROJECT CONDITIONS

A. Ensure ambient and surface temperatures and joint conditions are suitable for installation of materials.

1.08 WARRANTY

A. Product: Manufacturer to provide a letter of conformance to the specifications.
1. Windows shall be warranted against defects in material or workmanship, under normal use for a period of (1) year after installation.
2. Insulated glass shall be warranted against visual obstruction resulting from film formation or moisture collection between the glass surfaces for a period of (5) years after installation covering replacement of materials only. Labor excluded.

B. Installation: Installer shall furnish written warranty to correct any units which do not operate properly or have excessive air infiltration or water penetration or any other defect which is directly related to faulty installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturers (Subject to conformance with the Performance and Material Requirements.):
1. Starline Industries, Baltimore, MD

2.02 MATERIALS

A. Aluminum
1. Aluminum shall be 6063-T5 alloy and temper and all frame and vent wall thickness minimums shall be in conformance with ANSI/AAMA 101-88 specification.

B.Glass and glazing

1.Glass and glazing thicknesses – ¼” – 7/16” – 9/16” – 1” – 1 5/16” 2. Provide extruded EPDM glazing gaskets at exterior of fixed frame to cushion glass under heavy wind loads in tandem with an interior hollow EPDM roll-in spline.
3. When furnishing 9/16” large missile glass in an insulating glass unit allow for a .500” air space. Provide silicone structural cap and heel beads when required.

2.03 WINDOW TYPES

A. Fixed Window Wall Systems
   1. Provide units complying with AAMA 101-88 F-AW180 performance criteria.
   2. Provide units with one fixed and one vertical sliding vent.
   3. Provide units glazed with a minimum 3/4" insulated glass thickness and consisting of glass lites suitable for building design pressure. Glass type to be (as selected by architect).
   4. Provide units with white bronze cam locks at meeting rails.
   5. Provide screens which can only be removed from inside to minimize the possibility of “blow out.”

2.04 FINISH

1. Organic (paint) finish applied over a five stage aluminum pretreatment. Finish shall be a one coat, one bake system and shall conform to AAMA 603.8-85.
2. Clear Anodic Finish - Class I - AAMA 12C22A41. Minimum thickness shall be 0.7 mil and conform to AAMA 607.1.
3. Dark Bronze Anodic Finish - Class I - AAMA 12C22A44. Minimum thickness shall be 0.7 mil and conform to AAMA 608.1.
4. Two coat high performance organic finish per AAMA 605.2.- 70% fluoropolymer
5.Two coat high performance organic finish per AAMA 605.2- 50% fluoropolymer.

PART 3 - EXECUTION

3.01 PREPARATION

A. Openings shall be verified to be within allowable tolerances, plumb, level and clean, providing a solid anchorage surface and in accordance with approved shop drawings. Unsatisfactory conditions shall be corrected prior to installation.

3.02 INSTALLATION

A. All windows shall be erected in accordance with the approved shop drawings and the following manufacturer's recommendations: No springing, forcing or distorting frames into openings. Head and sill members shall be aligned parallel and square with jambs. 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. Prior to erection of frames, erector must inspect both sill end connections at jamb junction for any breaks in the seal and if required reseal the joints with a quality small seam sealer.

B. After installation of windows the erector shall inspect the units for proper operation and make any adjustments that may be required. Any factory defects must be reported in writing to manufacturer at time of installation.

C. At inspection of windows after installation, any labels, excess sealant or other temporary materials should be removed from glass or aluminum.

D. Final cleaning or glass repairs are not part of this specification