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## ARCHITECTURAL SPECS

### DRIVE-THRU SERVICE WINDOWS

Series 8000

Aluminum Sliding Service Window System

D4.0

Jun 11

#### **DIVISION 08 - OPENINGS SECTION 08 56 59 SERVICE WINDOW UNITS**

*Specifier Note: Coordinate and edit articles and paragraphs below to suit project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's practice. Consult with manufacturer regarding performance requirements for units applicable to project, as well as, related equipment and accessories required.*

#### **PART I – GENERAL**

##### **1.01 SUMMARY**

- A. WORK INCLUDED: Furnish complete automatic or manual aluminum service window system, as specified, that has been manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
- B. RELATED WORK:
  - 1. Concrete: Division 03, applicable sections.
  - 2. Masonry: Division 04, applicable sections.
  - 3. Thermal and Moisture Protection: Division 07, applicable sections.
  - 5. Openings: Division 08, applicable sections.
  - 6. Electrical: Division 26, applicable sections.

##### **1.02 REFERENCES**

- A. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA): 101 Appendix Dissimilar Materials.
- B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):Z97.1: Safety Glazing Materials Used in Buildings - Methods of Test.
- C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM): B221 Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.
- D. THE ALUMINUM ASSOCIATION (AA) Aluminum Finishes Manual.
- E. UNDERWRITERS LABORATORY, INC. (UL) AND UNDERWRITERS LABORATORY OF CANADA (ULC):
  - 1. UL 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems
  - 2. UL 752: Ballistic Resistance Standard, Levels 1-4

##### **1.03 SUBMITTALS**

- A. PRODUCT DATA: Submit manufacturer's complete product and installation data.
- B. SHOP DRAWINGS: Submit drawings showing layout, profiles, product components including anchorage, accessories, finish and glazing details (where required).
- C. QUALITY ASSURANCE AND CLOSEOUT SUBMITTALS: Submit the following:
  - 1. Manufacturer's Operation and Maintenance Data.
  - 2. Warranty document as specified herein.

##### **1.04 QUALITY ASSURANCE**

- A. INSTALLERS QUALIFICATIONS: Installer shall be experienced to perform work of this section.



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#### 1.04 QUALITY ASSURANCE - Continued

B. MANUFACTURER'S QUALIFICATIONS: Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic and manual windows of the type required for this project.

#### 1.05 WARRANTIES

- A. MANUFACTURER'S WARRANTY: Units to be warranted against defect in material and workmanship for a period of one year from the Date of Substantial Completion. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.
- B. DISTRIBUTOR'S WARRANTY: One year warranty: Labor & transportation charges for defective parts replacement.

#### 1.06 PROJECT CONDITIONS

FIELD MEASUREMENTS: Verify actual dimensions/openings by field measurements before fabrication and record on shop drawings. Coordinate with fabrication and construction schedule to avoid construction delays.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. ORDERING AND DELIVERY: Comply with factory's ordering instructions and lead time requirements. Delivery shall be in factory's original, unopened, undamaged containers with identification labels intact.
- B. STORAGE AND PROTECTION: Provide protection from exposure to harmful weather conditions and vandalism.

### PART II – PRODUCTS

#### 2.01 MANUFACTURER

HORTON AUTOMATICS, a division of Overhead Door Corporation, shall manufacture automatic and/or manual service window(s) of type(s) and size(s) specified on plans and door schedule.

#### 2.02 EQUIPMENT

- A. MANUFACTURED WINDOW UNITS: Shall include operator (automatic units), header and track, jambs, sliding panel(s), and sidelite(s). Projected units shall include canopy and counter. Units to be mounted within rough opening with sliding panel(s) sliding along sidelite. Units will be either single-slide or bipart and will be one of the following series:
1. Series 8100 (O-X or X-O): Flush-mount, automatic single-slide unit with 1" (25 mm) insulated glass.
  2. Series 8100TS (O-X-X-O): Flush-mount, automatic biparting, unit with thin stile rails and 1/4" (6 mm) glass.
  3. Series 8200TS (O-X-X-O): Projected, automatic biparting unit with thin stile rails and 1/4" (6 mm) glass. Also includes stainless steel counter, 1/4" (6) tinted glass canopy and metal apron.
  4. Series 8300 (O-X/O-X or X-O/X-O): Projected, security/automatic single slide unit with 1" (25 mm) insulated glass in front panels and (6 mm) glass in projected panels. Sliding interlocking panels synchronized so that one is always in closed position. Also includes stainless steel counter. Option: Bullet resistant glass.
  5. Series 8900 (O-X or X-O): Single slide, flush-mount manual unit with 1" (25 mm) insulated glass. Options: low-profile header
- B. OPERATOR: The Electric Operating Mechanism for automatic units shall be Series 8000. Average current draw will be less than 2 amps. The operator shall be mounted and concealed within header.



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### 2.02 EQUIPMENT, Item B - Continued

1. Operation shall be accomplished through a 1/8 HP DC permanent magnet working with a threadless, induction hardened stainless steel 1/2" (13 mm) diameter linear drive shaft. A linear travel block describes a helical path along the rotating shaft utilizing six aircraft quality ball bearings acting as an integral clutch. Linear drive shaft shall be self lubricating by means of integral oiler located in the travel block.
  2. Electronic Master Control shall have dual on-board seven-segment diagnostic display with programmable parameters. Master control shall incorporate the following features:
    - a. Adjustable time delay from 1 to 20 seconds
    - b. Fully and independently adjustable open speed, close speed and close check
    - c. Adjustable reversing circuit enabling operator to reopen window unit if closing path is obstructed.
    - d. Circuit breaker (.5 Amp) for current overload protection
  3. On/Off Switch shall be supplied. When switched OFF or during electrical power failure, unit reverts to free manual operation.
  4. Security window units will have interlock controller with security interface.
- C. HEADER: Shall be slim 4" (102 mm) deep by 6" (152 mm) high aluminum construction. Header shall have removable face plate. Manual units have optional low-profile 2 1/2" high header.
- D. HEADER TRACK: Shall be aluminum, nylon covered, and replaceable. Rollers will be steel, high quality ball bearing wheels 1-1/4" (32 mm) diameter. Anti-Derailing shall be accomplished by means of a continuous aluminum extrusion full length of slide panel travel.
- E. SLIDING PANEL(S) AND FIXED SIDELITE(S): Shall be aluminum and glass, 1-3/4" (44 mm) deep with narrow stile or thin stile construction. Glass thickness and glazing as per unit type. Sliding panels shall have concealed guides to stabilize bottom of sliding panel. Mohair weather-strip provided on all strike rails as well as on adjoining vertical rails.
- F. JAMB/FRAME: Shall be aluminum, 1-3/4" (44 mm) deep by 4" (102 mm) wide.
- G. HARDWARE: Shall include the following:
  1. Manual Locks: Single slide units equipped with Adams Rite® maximum security MS1850 lock, 1-5/32" (29 mm) cylinder, 6410 standard thumbturn and keeper. Key cylinder optional. Biparting units equipped with Adams Rite® MS1847-06 lock, escutcheon, spindle and lock knob, and keeper.
  2. Autolock: All units equipped with automatic locking mechanism that securely locks the window every time it closes. It unlocks only if window unit is activated or if lock release is depressed.
  3. Manual Recessed Pull: On interior side of strike rails of manual units

### 2.03 RELATED EQUIPMENT AND WORK REQUIREMENTS

- A. CONTROL SWITCHES FOR AUTOMATIC UNITS: Each of the following is 24 V AC, class II circuit:
1. WinScan™ for Flush-mounted Units: Surface applied, active infrared presence detector factory wired and mounted to header section of unit. Detection pattern is aimed down and in front of the opening and has an adjustable range of 10" - 36" (254 -914 mm) from sensor. Activation is initiated and maintained with interruption of pattern.
  2. HipScan™ for Projected Biparting and Flush-mount Units: Surface applied and field installed to interior surface below and in front of opening. Includes stainless steel base and two Lexan enclosures with retroreflective photoelectric transmitter/receiver in one and reflector in other. Activation is initiated and maintained with interruption of beam between two enclosures.



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### 2.03 RELATED EQUIPMENT AND WORK REQUIREMENTS, Item A - Continued

3. Security Pushbutton for Projected Security Units: Three button switch, factory wired and installed, synchronizes two interlocking slide panels allowing only one to be open at any given time. Each button must be pressed once to open then again to close.
4. Auxiliary Pushbutton: Momentary contact switch serves as auxiliary mode of actuation. Factory wired and installed.

#### B. OPTIONAL SWITCHES FOR AUTOMATIC UNITS:

1. Partial-Open Cut-off: Consult with factory for desired opening. Factory wired and installed.
2. Latch Relay Module: Actuation button must be pressed once to open then again to close. Factory wired and installed.
3. Fly Fan Switch: Magnetic reed switch factory installed in automatic or manual units for actuation of fly/insect suction fan when window is open. Fan and wiring by electrical contractor.

C. ELECTRICAL REQUIREMENTS FOR AUTOMATIC UNITS: 120 VAC, 60 cycle, 1 phase, 15 amp service to be provided by general or electrical contractor.

B. GLASS AND GLAZING: Glass and glazing provided by manufacturer in thickness and type recommended for particular unit type; otherwise, general contractor to coordinate acquisition of glass in thickness and type in accordance with manufacturer's recommendations for prescribed design (manufacturer to provide corresponding glass stops for field glazing). Glazing Materials: Glass stops, glazing vinyl and setting blocks for field glazing as per Safety Glazing standard ANSI Z97.1.2. Security glazing as per UL 752.

### 2.04 MATERIALS, FINISHES AND FABRICATION

A. EXTRUDED ALUMINUM: ASTM B221, 6063-T5 alloy and temper, anodized:

1. Structural Header Sections: Minimum 3/16" (5 mm) thickness.
2. Structural Frame Sections: Minimum 1/8" (3 mm) thickness.
3. Structural Panel Sections: Commercial grade.

B. FINISHES (for all exposed aluminum surfaces): Shall be one of the following:

1. 204-R1 Clear: Arch. Class 2 Clear Anodized Coating, AA-MI2C22A31.
2. 313-R1 Dark Bronze: Arch. Class 1 Anodized Coating, AA-MI2C22A44.
3. 312-R1 Light Bronze: Arch. Class 1 Anodized Coating, AA-MI2C22A44.
4. 315-R1 Black: Arch. Class 1 Anodized Coating, AA-MI2C22A44.
5. Special Paint Coating: Color as selected.
6. Clad with stainless steel or muntz metal (brass alloy): #7 or #4 finish.

C. PANEL CONSTRUCTION: Corner block type with 3/16" steel backup plate construction, mechanically secured with minimum of four hardened steel screws. Sash consists of snap-in glass stops, snap-in glazing beads and vinyl gaskets.

D. FRAME CONSTRUCTION: Butt joints, mechanically secured by means of screws and formed aluminum corner brackets.

E. OPERATOR CONSTRUCTION FOR AUTOMATIC UNITS: Electromechanical modular type construction.



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## PART III - EXECUTION

### 3.01 EXAMINATION

**SITE VERIFICATION OF CONDITIONS:** Installer must verify that base conditions previously installed under other sections are acceptable for product installation according to with manufacturer's instructions. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of work. Do not start work until all negative conditions are corrected in a manner acceptable to the installer and manufacturer.

### 3.02 INSTALLATION

- A. **GENERAL:** Install window units plumb, level and true to line, without warp or rack of frames or sash with manufacturer's prescribed tolerances. Provide support and anchor in place.
- B. **DISSIMILAR MATERIALS:** Comply with AAMA 101, Appendix Dissimilar Materials by separating aluminum materials and other corrodible surfaces from sources of corrosion or electrolytic action contact points.
- C. **WEATHER-TIGHT CONSTRUCTION:** Install header and framing members in a bed of sealant or with joint filler or gaskets. Coordinate installation with wall flashings and other components of construction.
- D. **ELECTRICAL:** General or electrical contractor to install all wiring to operator. Up to five units may be connected to single circuit.

### 3.03 CLEANING, ADJUSTMENT AND PROTECTION

- A. **CLEANING:** After installation, installer to take following steps:
  - 1. Remove temporary coverings and protection of adjacent work areas.
  - 2. Remove construction debris from construction site and legally dispose of debris.
  - 3. Repair or replace damaged installed products.
  - 4. Clean product surfaces and lubricate operating equipment for optimum condition and safety.
- B. **ADJUSTMENTS & PRECAUTIONS:** Installer to adjust operator and controls for automatic units for optimum condition and safety. Advise contractor of precautions required through the remainder of the construction period, to ensure that units will be without damage or deterioration (other than normal weathering) at the time of acceptance.

*Note: Horton Automatics reserves the right to make product improvements and change specifications without notice.*

## END OF SECTION