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ARCHITECTURAL SPECS

SWING DOORS & OPERATORS – LOW ENERGY

Series 7900 and 4900LE
Surface Applied Low Energy Fire Door Operator

B6.7

Sept 12

DIVISION 08 - OPENINGS SECTION 08 17 00 INTEGRATED DOOR OPENING ASSEMBLIES

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 aluminum door 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 ASSOCIATION OF AUTOMATIC DOOR MANUFACTURERS (AAADM).
- C. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
 - 1. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Methods of Test.
 - 2. ANSI A156.19: For Power Assist and Low Energy Power Operated Doors
 - 3. ANSI.117.1: Accessible and Usable Buildings and Facilities
- D. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) B221: Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.
- E. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101: Code for Safety to Life from Fire in Buildings & Structures.
- F. THE ALUMINUM ASSOCIATION (AA) Aluminum Finishes Manual.
- G. UNDERWRITERS LABORATORY, INC.(USA & CANADA) UL 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.

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.



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PART I, 1.03 SUBMITTALS – Continued

3. AAADM inspection compliance form completed and signed by certified AAADM inspector prior to doors being placed in operation as proof of compliance with ANSI A156.10.

1.04 QUALITY ASSURANCE

- A. **INSTALLERS QUALIFICATIONS:** Installer shall be factory trained, certified by AAADM, and experienced to perform work of this section.
- B. **MANUFACTURER'S QUALIFICATIONS:** Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.

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 and 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 swing door(s) of type(s) and size(s) specified on plans and door schedule.

2.02 EQUIPMENT

- A. **OPERATOR:** Shall be one of the following:
 1. HD-Swing® Series 4900LE: Electric operator shall be isolation mounted and concealed in an extruded aluminum case for smooth and quiet operation. Header shall be 6" x 6" (152 mm x 152 mm) with side access.
 - a. Opening action shall be accomplished by a 1/8 HP D.C. permanent magnet motor working through reduction gears to the output shaft. Gear train bearings shall be sealed ball bearing types.
 - b. Closing action shall be accomplished by a maximum-duty Quadracoil™ spring (four independent coil springs separated by teflon discs and enclosed in an external spring box) with a lifetime warranty. Close speed control shall be supplied by dynamic braking of the motor and shall be fully adjustable. Operator to act as a manual closer when power is off or when the master control unit is removed. An On/Off/Hold Open switch shall be supplied.



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2.02 EQUIPMENT, item A – Continued

2. EasyAccess® Series 7900: Electric operator shall be mounted and concealed in an extruded aluminum case for smooth and quiet operation. Header shall be 4" x 6" (102 mm x 152 mm) with side access.
 - a. Opening action shall be accomplished by a 1/15 HP D.C. permanent magnet motor working through reduction gears to the output shaft.
 - b. Closing action shall be accomplished by a field replaceable spring. When the door is in the closing mode or fully closed, motor voltage shall not be required and will be off. The door can be manually operated with power on or off without damage to the operator. An On/Off/Hold Open switch shall be supplied.
- B. MASTER CONTROL: Shall incorporate the following features:
 1. Adjustable time delay of 2 to 30 seconds (ANSI A156.19 requirement is 5 second minimum time delay).
 2. Infinite adjustment to opening and open check speeds including adjusting the opening force without affecting the opening speed.
 3. Immediate reversal of door motion without undue strain on the drive train. This will be accomplished by supplying stepped voltage to the motor. The door shall reverse when closing if an object stops the door.
 4. Motor Protection Circuit: A locked door motor protection circuit will be supplied that will shut off current to the motor when the door is inadvertently locked or otherwise prevented from opening.
 5. Emergency Breakout for Inswinging doors (overhead concealed): When door is in emergency breakout position, power shall be removed from the operator.
- C. OPERATING SEQUENCE (in order of normal use):
 1. The actuating switch signals the operator when to open. Door closes after time delay expires. Operator to include the following variable adjustments so as to comply with ANSI Standard A156.19: Opening speed - 4 to 6 seconds; Closing speed - 4 to 6 seconds. Opening and closing force, measured 1" (25.4 mm) out from the lock stile of the door, not to exceed 15 pounds (67 N) of force to stop the door when operating in either direction.
 2. The detection of a fire trips the fire detection device. Provision must be made to remove power from the operator upon activation of the fire alarm causing the door to be mechanically closed by a spring.
 3. The fire detection device also trips the latch release mechanism on the fire exit hardware causing the latch bolts to engage when the door is in the closed position. The fire exit hardware latches the door closed to contain the fire or smoke and prevent it from spreading to other areas of the building.
 4. Exiting: The panic bar is depressed which releases the exit device. The springs on the door operator will re-close the door as soon as the door is released. The door will close and re-latch upon reactivation of the fire detection system.
 5. Reset to automatic mode as required.
 6. Option: Manual: Push-N-Go™: Manually pushing door activates automatic opening cycle; door closes after time delay expires.
- D. MANUFACTURED DOOR UNITS: Surface Applied Operator with Connecting Arms: The operator header shall be mounted to the surface of the existing labeled door frame or wall. Connecting hardware shall be a double arm arrangement that pushes the existing labeled door open. UL approved "Fire Exit Hardware" shall be supplied by others and shall be type GXHX as found in the UL Materials Directory. This equipment shall work in conjunction with fire/smoke detection system provided by others.

2.03 RELATED EQUIPMENT

- A. ACTIVATING DEVICE: Shall be located on each side of the opening as per ANSI Safety Standard A117. Activating device shall be one of the following:
 1. Pushbutton: 1" Diameter (25 mm) round, red pushbutton switch.
 2. Push plate: 6" Diameter (152 mm) round, stainless steel switch.



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2.03 RELATED EQUIPMENT - Continued

B. UL LABELED EQUIPMENT: Door, frame, hinges, automatic fire detectors or a central alarm control and “fire exit hardware” type GXHX as found in the UL Building Materials Directory.

2.04 RELATED WORK REQUIREMENTS

- A. ELECTRICAL: 120 VAC, 60 cycle, 1 phase, 15 amp. Non-North American voltages can be 240 VAC (operator must have 240 volt power supply)
- B. DOOR AND HARDWARE: Labeled door and frame assembly as per NFPA 101 Safety to Life Requirements and NFPA 80 Fire Door Requirements. All hardware used must be UL listed for retarding the spread of fire or smoke

2.05 MATERIALS, FINISHES AND FABRICATION

- A. EXTRUDED ALUMINUM: Structural Header Sections shall be Minimum 1/8" (3 mm) thickness. ASTM B221, 6063-T5 alloy and temper, anodized:
- 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. OPERATOR CONSTRUCTION: Electromechanical.

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 – Continued

- A. GENERAL: Installer shall be factory trained, certified by AAADM, and experienced to perform work of this section. Install door 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 on a separate circuit breaker routed into header.



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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. **ADJUSTMENT:** AAADM certified technician shall inspect and adjust installation to assure compliance with ANSI A156.19.

C. **ADVISE CONTRACTOR:** Of precautions required through the remainder of the construction period, to ensure that doors 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

B10.4