

HORTON AUTOMATICS - ARCHITECTURAL SPECIFICATIONS, 9/2003

HD-SLIDE™ INDUSTRIAL - ELECTRIC OR PNEUMATIC BELT DRIVE OPERATOR WITH INDUSTRIAL SLIDING DOOR PANELS / RAPIDSLIDE™

DIVISION 8 - DOORS AND WINDOWS SECTION 08342 - INDUSTRIAL AND HANGER DOORS

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 industrial 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. Masonry: Division 4, applicable sections.
2. Electrical: Division 16, applicable sections.
3. Plumbing; Air Lines and Air Supply if applicable: Division 15, applicable sections.
4. Glass and Glazing; Hardware: Division 8, 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. [NATIONAL FIRE PROTECTION ASSOCIATION: NFPA 101](#): Code for Safety to Life from Fire in Buildings & Structures.
- E. [THE ALUMINUM ASSOCIATION](#): AA Aluminum Finishes Manual.
- F. [UNDERWRITERS LABORATORY, INC.: UL 325](#): Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems
- G. [UNDERWRITERS LABORATORY OF CANADA](#)

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 experienced (as determined by contractor) to perform work of this section who has specialized in the installation of work similar to that required for this project and who is acceptable to product manufacturer.

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: Comply with factory's ordering instructions and lead time requirements.

B. DELIVERY: Deliver items in factory's original, unopened, undamaged containers with identification labels intact.

C. STORAGE AND PROTECTION: To provide protection from exposure to harmful weather conditions and vandalism.

PART II - PRODUCTS

2.01 MANUFACTURER

Automatic sliding door(s) furnished and installed shall be of type(s) and size(s) specified and as indicated on plans and door schedule and shall be manufactured by Horton Automatics, a division of Overhead Door Corporation.

2.02 EQUIPMENT

A. MANUFACTURED DOOR UNITS: Shall include operator, header and track, floor mount guide(s), and sliding door panel(s). Total weight limit per panel to be 500 lbs (227 kg). Units to be surface mounted with sliding panel(s) sliding along wall. Units will be single-slide or biparting.

B. OPERATOR: The operating mechanism shall be either electric or pneumatic as described below:

1. Electric Operating Mechanism: shall be Series 2001 Belt Drive. The operator shall be mounted and concealed within the header. Operating force shall be accomplished through a 1/8 HP DC permanent magnet motor with worm gear transmission and 1800 RPM working with drive belt, attached door hangers, and idler pulley. Drive belt to be steel reinforced polyurethane and nylon, 1" (25 mm) wide. Idler pulley to be reinforced, non-metallic material.

a. The Microprocessor Master Control shall have programmable speed values for: Open Speed, Close Speed, Open Check, Close Check, and Open and Close Cushion; however, Close Speed not to exceed 12" (305 mm) per second. Opening speed for biparting door can reach 60" (1524mm) per second.

b. The control shall also have Programmable time values for Full-Open Time Delay, Separate Reverse Open Time Delay, and Partial-Open Time Delay. Partial-Opening to be adjustable in increments of 1" (25 mm).

c. Modes of operation shall be: Auto-seal mode with self-close approximately every 11 seconds, Self-cycle test mode (operates door during tune-in process), Latch Function, Slow Speed Mode parameters and Fast Open Mode parameters. Diagnostics shall be accomplished via a digital display.

d. Control to have dedicated interface connection.

e. A Revolution Encoder shall instruct the control on sliding panel's speed and position. An Adjustable Reversing Circuit will reopen door unit if closing path is obstructed. Optional safety nosing to work in conjunction with reversing circuit. Maximum force required to prevent sliding panel from closing = 28 lbf.

f. A Toggle On/Off Switch is located inside header. When switched OFF, unit reverts to free manual operation (likewise during electrical power failure).

2. Pneumatic Operating Mechanism: shall have noncorrosive cylinder and shall be header mounted and concealed with a removable cover. It shall have an adjustable time delay from 1 to 28 seconds. The opening speed, closing speed, back check and latch check shall be fully and independently adjustable. Braking and checking shall be an integral function of the operator for deceleration of the moving panel. For protection in case of electrical power failure, operator shall be free to move manually. An ON/OFF power switch shall be located on the side of the header and shall serve as a second function as "hold open" for door. The Select Control Functions shall be as follows:

a. Signal to open; closes automatically after adjustable time delay expires. Recycles at any point of closing.

b. Signal to open; signal to close. Recycles at any point of closing.

c. Combination of (a) and (b).

d. Reversing circuit available for use with on-door nosing or by horizontal photoelectric light.

e. Partial opening cutoff. A selector can be provided to allow the door to open partially when full opening is not necessary.

f. Options: Pneumatic explosion-proof operator including controls. Electromechanical solenoid valves and master controls shall be located in nonexplosive area within 25' (7620 mm) of operator.

C. TRACK AND HEADER: Track to be aluminum, 5/8" (8 mm) wide and replaceable. Door-hanger Rollers will be non-metallic, sealed ball bearing wheels 1-3/4" (44 mm) diameter. Anti-Derailing shall be accomplished by means of a separate adjustable roller. All to be enclosed in aluminum header with removable face plate. Header to be capable of self-support up to length of 16 feet (4877 mm) on standard door size. Header size to be 6" (152 mm) deep by 8" (203 mm) high.

D. DOOR PANEL: shall be provided with flush pull(s) and, if required, Maximum Security Lock with 31/32" (25 mm) backset with 1 5/32" (29 mm) standard size cylinder. Sliding door panel(s) shall be one of the following:

1. Hollow Metal: Heavy duty panel shall have a structural core of resin impregnated Kraft honeycomb with 20, 18, 16 or 14 gauge cold rolled or G-90 galvanized steel skins bonded to the core under pressure. Interior framing channels shall be 14 gauge cold rolled or galvanized steel. Flush pulls shall be welded to the panels. Panel shall be factory drilled and tapped. All exposed welds shall be ground smooth and filled. The panel shall present a flush appearance with no exposed fasteners. Nominal panel thickness shall be 1-3/4" (44mm). Splice column shall be used if both panel width and height exceed 96" (2438mm). Floor mounted guide shall be concealed stay roller and shall stabilize bottom of sliding door panel. All exposed surfaces shall be phosphatized prior to receiving one coat of gray rust-inhibiting prime paint on cold rolled skins or one coat of ZRC zinc base rust-inhibiting galvanized prime paint on galvanized skins. Buna-N™ vinyl weather-stripping on heel and strike end.

- a. Optional Hollow Metal Finished Construction: Stainless steel.
- b. Optional Hollow Metal Insulating Cores: Polystyrene or Urethane.
- c. Optional Hollow Metal Vision Lite: 1/4" (6mm) tempered wire glass - 24" (610mm) square or 36" (914mm) square.

2. Rapidslide™: Light weight, fast moving panel shall have a structural core of polystyrene with .022" (5mm) aluminum and .125" (3mm) hardboard backing bonded to the core on both sides under pressure. Exterior framing channels shall be extruded aluminum alloy with retainer for perimeter vinyl weather stripping. Nominal panel thickness shall be 1-3/4" (44mm). An aluminum extruded splice column shall be used if panel width exceeds 48" (1219mm). Maximum panel height shall be 120" (3048mm). Floor mounted guide shall be concealed Delrin block and shall stabilize bottom of sliding door panel. Panel shall be finished with an Alpine White smooth, baked on, polyester enamel paint. Optional Rapidslide™ Vision Lite: 12" (305mm) x 25" (635mm) oval shaped, double acrylic vision lite.

3. Aluminum and Glass: Full vision panel to have nominal thickness of 1-3/4" (44mm). All rails shall be medium stile. Joining vertical panel rails and horizontal rails shall have mohair weatherstripping. Door panel construction shall have mechanical joints. Floor mounted guide shall be concealed Delrin block and shall stabilize bottom of sliding door panel.

- a. Optional Aluminum Door Rails: Horizontal muntin (mid rail) or wide stile rails
- b. Optional Aluminum Door Glazing Prep: 5/16" (8mm) to 1" (25mm)

2.03 RELATED EQUIPMENT

A. ACTIVATING DEVICE: 24 VAC, class II circuit:

One of the following switches to be located on each side of the opening:

1. Pull Chain Switch: Momentary contact switch, ceiling mounted with available chain length of 114" (2896 mm).

2. Push Plate Wall Switch: Momentary contact switch, 6 1/4" (159 mm) dia. stainless steel plate on standard junction box.

3. Non-contact switch: Self-contained and wall mounted using pulsed diffused scanning technology with an adjustable range of 0" -15" (381 mm).

B. SAFETY DEVICE: Hold-open beams: Two LED pulsed infrared photoelectric beams to be wall-mounted in vertical posts at heights of 24" (610 mm) and 48" (1219mm).

Sender/receiver arrangement parallels door opening: Holds door open when interrupted and door is in open position; recycles door when closing (does not activate door when unit is fully closed).

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. AIR SUPPLY: Shall be complete unit with tank, compressor, motor, regulator, safety valve, pressure cutoff switch and automatic air line filter drain. It shall be capable of supplying all operators with 60 PSI air pressure at 1 CFM per door. The air must be filtered.

C. PLUMBING: The General Contractor shall supply and install the air line to connect the supply tank on the air compressor to the Horton operator with copper tubing of proper size as recommended by manufacturer. Drain traps shall be furnished and installed by said contractor at all low pocket points in the air line. This plumbing shall conform to local plumbing codes. If air lines are run in the floor slab (not recommended), conduit sleeve must be provided and drain traps shall be installed at all low points in the line. In areas where air lines are subjected to extreme cold, dehydrating equipment should be specified.

D. GLASS AND GLAZING: Glass stops, glazing vinyl and setting blocks for field glazing as per Safety Glazing standard ANSI Z97.1.2. General contractor to coordinate acquisition of glass in thickness and type in accordance with manufacturer's recommendations for prescribed design.

2.05 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 Panel Sections for Aluminum and Glass Doors: Commercial grade.
3. Structural Sections for Rapidslide™ exterior framing channels: Minimum .09" (2mm) thickness.

B. EXPOSED ALUMINUM FINISH: 204-R1 Clear: Arch. Class II Clear Anodized Coating, AA-MI2C22A31. Optional Finish: Clad with brushed stainless steel #4 finish.

C. PANEL CONSTRUCTION: Refer to Article 2.02, paragraph C. DOOR PANEL, for specified panel type.

D. OPERATOR CONSTRUCTION: Electromechanical, modular type construction.

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 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. ELECTRICAL: General or electrical contractor to install all wiring to operator on a separate circuit breaker routed into header.

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: Installer to adjust operator and controls for optimum condition and safety.

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.

END OF SECTION