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ARCHITECTURAL SPECIFICATIONS

SLIDE DOORS – ICU/CCU AIRBORNE INFECTION CONTROL

Profiler® Series 2000-IDS-2

A23.1

Smoke Rated Automatic Isolation Door System

Linear or Belt Drive, Track or Trackless Guide

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DIVISION 08 - OPENINGS

SECTION 08 42 43 – INTERMEDIATE / INTENSIVE / CRITICAL CARE UNIT ENTRANCES

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 specified automatic door system for airborne infection control room, that has been manufactured, fabricated & installed to meet manufacturer's standards without defects, damage or failure.
- B. RELATED WORK:
 - 1. Openings: Division 08, applicable sections.
 - 2. Electrical: Division 26, applicable sections.

1.02 REFERENCES

- A. 2017 FACILITIES GUIDELINES INSTITUTE (FGI) FOR DESIGN AND CONSTRUCTION OF AIRBORNE INFECTION ISOLATION ROOMS (AIIR) IN HEALTHCARE FACILITIES
- B. THE ALUMINUM ASSOCIATION (AA) Aluminum Finishes Manual.
- C. AMERICAN ASSOCIATION OF AUTOMATIC DOOR MANUFACTURERS (AAADM).
- D. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA) 101: Dissimilar Materials.
- E. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
 - 1. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Methods of Test.
 - 2. ANSI A156.38: Low Energy Power Operated Sliding Doors section
- F. AMERICAN SOCIETY FOR TESTING AND MATERIALS
 - 1. ASTM B221: Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.
 - 2. ASTM E283-04: (Air Infiltration) Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
- G. NATIONAL FIRE PROTECTION ASSOCIATION:
 - 1. NFPA 101: Code for Safety to Life from Fire in Buildings & Structures.
 - 2. NFPA 105: Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives.
- H. UNDERWRITERS LABORATORIES, INC. (USA & CANADA)
 - 1. UL 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.
 - 2. UL 1784 Air Leakage Test of Door Assemblies
- I. INTERTEK, WARNOCK HERSEY (ETL): Testing Laboratory and Certification Agency joined with ETL SEMKO

1.03 SUBMITTALS

- A. SHOP DRAWINGS & PRODUCT DATA: Submit drawings and product data showing layout, profiles, product components including anchorage, accessories, finish and glazing details (where required).
- B. CLOSEOUT SUBMITTALS: Submit Owner's Manual & Warranty document as specified herein. Submit AAADM inspection compliance form completed and signed by certified AAADM inspector prior to doors being placed in operation as proof of compliance with ANSI A156.38.



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1.04 QUALITY ASSURANCE

- A. **INSTALLERS QUALIFICATIONS:** Installer experienced 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 intensive/critical care doors of the type required for this project. Manufacturer to provide field service representation during installation, approving acceptable installer and approving application method.
- C. **CERTIFICATIONS:** Automatic sliding door systems to be certified in accordance with the following standards:
1. ANSI A156.38: Low Energy Power Operated Sliding Doors section
 2. NFPA 101: Code for Safety to Life from Fire in Buildings & Structures.
 3. NFPA 105: Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives.
 4. ETL Listed: Tested to UL 325 and UL 1784 Standard
- D. **OPENING FORCE REQUIREMENTS FOR EMERGENCY EGRESS:** If power fails, slide panels can be manually slid open with no more than 15 lbf (222 N) of force.
Swing-out feature will function thusly: Flush Bolt shall be provided for swing-out sidelite. Swing-out sidelite will thus be locked in place under normal conditions.
In full slide-open position, after 'SO' flush bolt has been released, panels can swing out 90° with maximum 50 lbs. of force applied at the strike rail. Breakout mechanism shall provide support across full width of the door, in normal operating mode. In breakout mode, torsion assembly shall support weight of the door to minimize drop.
- E. **CLOSING FORCE REQUIREMENTS:** Maximum force required to prevent sliding panel from closing = 28 lbf. (124.5 N) Adjustable Reversing Circuit will reopen door unit if closing path is obstructed.

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:** 1 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 airborne infection isolation room door(s) of type(s) and size(s) specified on plans and door schedule.

2.02 EQUIPMENT

- A. **MANUFACTURED DOOR UNITS:** Shall include operator, header with roller track, carrier assemblies, framing jambs, sliding door panel, sidelite (if applicable), activation, safety devices and accessories required for



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complete installation. Units to provide minimum of 45 1/2" (1156mm) of clear slide opening width in compliance with 2017 FGI Guidelines for Airborne Infection Isolation Rooms (AIIR).

1. Configuration: Single Slide
 2. Mounting Type: Perimeter mounted within rough opening with sliding panel(s) sliding along sidelite.
 3. Door Type: Type 310 Trackless: Slide-swing panel 'SX' shall slide along interior side of swing-out sidelite 'SO' (door must be in full open position) utilizing trackless floor system with no floor track or recess required.
- B. AIR INFILTRATION RATING: Units tested and certified by Intertek to be in compliance with ASTM E283-04 and UL 1784.
1. Maximum leakage rate at ambient temperature was 1.36 CFM/ft² of opening at 0.3 in. of water.
 2. Maximum leakage rate at 400° F was 1.63 CFM/ft² of opening at 0.3 in. of water.
- C. FGI GUIDELINES COMPLIANCE: Units tested for air leakage and are in compliance with the 2017 FGI Guidelines for Airborne Infection Isolation Room (AIIR) systems.
- D. OPERATOR: shall be mounted and concealed within the header and will be either:
1. Series 2000 Linear Drive: Operation shall be accomplished through a 1/8 HP DC permanent magnet working with a threadless, induction hardened stainless steel 1/2" (13mm) diameter linear drive shaft. Maximum current draw shall not exceed 3.15 amps. 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. Series 2000B Belt Drive: 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 nylon, 1/2" (13 mm) wide. Idler pulley to be reinforced, metallic material.
 3. Microprocessor-based control shall include a 40 character alphanumeric display to provide ease of adjustment and comprehensive diagnostics, including error and alarm logging. All speeds, forces and time delays shall be independently adjustable. Actuating and safety sensors that provide self-monitoring are supported. Supported operating modes include 2-Way Automatic / 1-Way Exit, Full / Reduced Door Opening, and Day / Night Operation.
 4. Finger Safety: When unit slides open, strike rail of sliding panel will stop short of adjacent sidelite; resulting opening is net slide.
 5. On/Off Switch shall be supplied. When switched OFF, unit reverts to free manual operation (likewise during electrical power failure).
 6. Positive Latch: Fail Safe Autolock automatically locks slide function of door when in closed position. Additional power supply for Autolock not acceptable. If power fails the lock is disengaged.
- E. MONITORED POWER FAIL: Recommended that isolation door system be powered by facility provided UPS (Uninterrupted Power Source).
- F. PROFILER® HEADER: Shall be slim 4" (102mm) deep by 6" (152mm) high aluminum construction with extruded z-profile reinforcement for dead load and lateral strength. Header shall have removable face plate for service and adjustment of operator and controls. Header mounts flush to 4" framing jambs.
- G. CARRIER ASSEMBLIES AND HEADER ROLLER TRACK: Carrier assemblies shall support door panels with minimum four rollers per panel. 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. Overhead header roller track shall be continuous aluminum, nylon covered, and replaceable.
- H. SLIDE-SWING PANEL AND SWING-OUT SIDELITE: Shall be aluminum, 1-3/4" (44 mm) deep with narrow stile construction and with perimeter seals. Floor seal to allow between an 1/8" to 1/2" (3mm to 13mm) gap to finished floor. An intermediate, horizontal rail (muntin bar), 2 1/4" (57 mm) wide, shall be furnished for safety and division of glass. Standard bottom rail shall be 4" (102mm) tall with custom bottom rails up to 10" (254mm) tall. Standard glazing prep to be for 1/4" (6 mm) tempered glass. Total weight limit per panel shall be 156 lbs (70.7 kg) for UL listed slide-swing panel.



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I. JAMBS/FRAME: Shall be aluminum, 1 3/4" (44mm) or 1" (25mm) deep by 4" (102 mm) wide.

2.03 RELATED EQUIPMENT

- A. ACTIVATING DEVICE: Shall actuate door open; door closes after time delay expires. Optional latch relay action (push-to-open/push-to-close). Activating device shall be jamb mounted on each side of the opening.
1. Push plate: shall be jamb mounted with 1 1/2" (38 mm) wide x 4 3/4" (121 mm) tall stainless steel face plate with momentary contact microswitch assembly. Face plate to have "Press To Open" engraving. Optional plain face plate with no engraving.
 2. Optional touchless sensor: active infrared device shall provide hands free operation with detection range of 6" to 30" (152 mm to 762 mm). Jamb mounted stainless steel face plate shall be 1 11/16" (43 mm) wide x 4 1/2" (114 mm) tall.
- B. SAFETY DEVICE: Hold-open beams: Two pulsed infrared photoelectric beams to be mounted in vertical rail of sidelite and in jamb. Sender/receiver arrangement parallels door opening and shall prevent door from closing while door way is occupied.

2.04 RELATED WORK REQUIREMENTS

- A. ELECTRICAL: 120 VAC, 50/60 cycle, single phase, dedicated 20 amp circuit per operator. Non-North American voltages can be 240 VAC 50/60 cycle (operator must have 240 volt power supply).
- B. GLASS AND GLAZING: Glass stops, glazing vinyl and setting blocks for field glazing as per Safety Glazing standard ANSI Z97.1.2, as well as able to maintain ASTM E283-04 and UL 1784 rating. 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 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 with optional antimicrobial coating:
1. 204-R1 Clear: Arch. Class 2 Clear Anodized Coating, AA-MI2C22A31.
 2. 313-R1 Dark Bronze, 312-R1 Light Bronze, or 315-R1 Black: Architectural Class 1 Anodized Coating, AA-MI2C22A44.
 3. Special Paint Coating: Color as selected.
 4. Clad with stainless steel or muntz metal (brass alloy): #7 or #4 brushed finish.
- C. PANEL CONSTRUCTION:
1. 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. Gasketing material to be captured in extruded aluminum door panel. Floor seal is brush material. Perimeter and floor seals to be factory installed to maintain ASTM E283-04 and UL 1784 rating.
 2. Slide-swing doors to be supplied with adjustable glass setting block to allow for adjusting of door to meet site conditions eliminating the need for additional shims.
- D. FRAME CONSTRUCTION: Butt joints, mechanically secured by means of screws & formed aluminum brackets.



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PART III - EXECUTION

3.01 EXAMINATION

SITE VERIFICATION OF CONDITIONS: Installer must verify that base conditions 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. **SMOKE CONTAINMENT BARRIER CONSTRUCTION:** Install header and framing members in a bed of neutral cure silicone sealant to maintain compliance with NFPA 105. Coordinate installation with wall flashings and other components of construction.

3.03 CLEANING, ADJUSTMENT AND PROTECTION

- A. **CLEANING:** After installation, installer to take following steps:
 - 1. Remove temporary protection of adjacent work areas. Remove construction debris from construction site and legally dispose of debris.
 - 2. Repair or replace damaged installed products. Clean product surfaces and lubricate operating equipment for optimum condition and safety.
- B. **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.

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

END OF SECTION