SECTION 08 42 29.23 – SLIDING AUTOMATIC ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the following types of automatic entrance doors:
   1. Exterior and interior telescopic sliding automatic entrances, including glazing and hardware.

B. Related Work required but not specified here-in:
   1. Full perimeter and threshold caulking of finished openings.
   2. Electrical connections including conduit and wiring for automatic entrance door operators and access control devices.

1.2 REFERENCES

A. References: Refer to the version year adopted by the Authority Having Jurisdiction.

B. American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA).

C. Underwriters Laboratories (UL).
   1. UL 325 Standard for Safety for Door, Drapery, Gate, Louver and Window Operators and Systems.

D. American Association of Automatic Door Manufacturers (AAADM).


F. American Architectural Manufacturers Association (AAMA).
G. National Association of Architectural Metal Manufacturers (NAAMM).
   1. Metal Finishes Manual for Architectural Metal Products.

H. International Code Council (ICC).
   1. Building Code of New York State

1.3 DEFINITIONS

A. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to activate the operation of the door.
   1. Knowing act: Consciously initiating the opening of a power operated door using acceptable methods including wall mounted switches such as push plates and controlled access devices such as keypads, card readers and key switches.

B. Safety Device: A device that detects the presence of an object or person within a zone where contact could occur and provides a signal to stop the movement of the door.

1.4 PERFORMANCE REQUIREMENTS

A. Compliance with the following:
   2. UL 325 listed.

B. Automatic door equipment accommodates medium to heavy pedestrian traffic.

C. Entrapment Force Requirements:
   1. Power Operated Sliding Doors: Not more than 30 lbf required to prevent stopped door from closing.
   2. Sliding doors provided with a breakaway device shall require no more than 50 lbf applied 1 inch from the leading edge of the lock stile for the breakout panel to open.

1.5 SUBMITTALS

A. Product Data: Manufacturer’s product data sheets including installation details, material descriptions, dimensions of individual components and profiles, fabrication, operational descriptions and finishes.

B. Shop Drawings: Submit manufacturer’s shop drawings, including elevations, sections and details, indicating dimensions, materials, and fabrication of doors, frames, sidelites, operator, motion /presence sensor control device, anchors, hardware, finish, options and accessories.

C. Samples: Submit manufacturer’s samples of aluminum finish.

D. Manufacturers Field Reports: Submit manufacturer’s field reports from AAADM certified technician of inspection and approval of doors for compliance with ANSI/BHMA A156.10 after completion of installation.
E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door opening installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the entrance and their nearest service representatives. The final copies delivered after completion of the installation test to include spare parts list.

F. Warranties and Maintenance: Special warranties and maintenance agreements specified in this Section.

1.6 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 10 years of documented experience in manufacturing of doors and equipment of similar to that indicated for this Project and that have a proven record of successful in-service performance. Manufacturer to have a company certificate issued by AAADM.

B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 3 years documented experience installing and maintenance of units similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Certified Inspector Qualifications: Certified by AAADM.

D. Source Limitations for Automatic Entrances: Obtain each type of door, frame, operator and sensor components specified in this Section from a single source, same manufacturer unless otherwise indicated.


F. Emergency Exit door requirements: Comply with requirements of authorities having jurisdiction for automatic entrance doors serving as a required means of egress.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings to receive automatic entrances by field measurements before fabrication and indicate on shop drawings.

1.8 COORDINATION

A. Coordinate sizes and locations of recesses in concrete floors for recessed tracks and thresholds if applicable.

B. Electrical System Roughing-in: Coordinate layout and installation of automatic entrances with connections to power supplies and access control system as applicable.

1.9 WARRANTY

A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and
shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Automatic Entrance Doors shall be free of defects in material and workmanship for a period of One (1) year from the date of substantial completion.

C. During the warranty period a factory-trained technician shall perform service and affect repairs. An inspection shall be performed after each adjustment or repair.

D. During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal business hours.

E. Manufacturer shall have in place a dispatch procedure that shall be available 24 hours a Day, 7 Days a week for emergency call back service.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Manufacturer: ASSA ABLOY Entrance Systems, 1900 Airport Road, Monroe, NC 28110. Toll Free (877) SPEC-123. Fax (704) 290-5555 Website www.assaabloyentrance.us contact: specdesk.na.entrance@assaabloy.com


2.2 SLIDING AUTOMATIC ENTRANCES

A. Sliding automatic entrance system including the following:
   1. Sliding panels, sidelites, transoms and aluminum frame.
   2. Overhead concealed, electro-mechanical operator.
   3. Operator housing, guide system and carrier assemblies.
   4. Controls and accessories as required for a complete installation.

B. Besam SL500 T67 Telescopic (Basis of Design) Automatic Sliding Entrance with Stile and Rail Panels:
   1. Telescopic bi-parting, full breakout, door system.
      a. Configuration: Bi-parting, six equal panel unit with four operable leaves and two sidelites.
      d. Mounting: Overhead header installed between jambs.

2.3 ENTRANCE COMPONENTS

A. Sliding Panels, Transom and Sidelites:
2. Door panels shall have a minimum .125 inch structural wall thickness. Door Construction shall be by means of an internal locking, self-centering corner block with 3/8 inch all-thread through bolt from each stile.

3. Door Construction shall be by means of an integrated corner block with 3/8 inch all-thread through bolt from each stile.

4. Glass stops shall be .062 inch wall thickness and shall provide security function as a standard by means of a fixed non-removable exterior section with glazing to be performed from the interior only.

5. The sliding door system shall include two interlocks per moving panel securing the door panels when in the closed position.

6. Vertical Stiles:
   a. Vertical Lock Stiles shall be narrow stile 2-1/8 inch x 2-1/4 inch.
   b. Vertical Intermediate Stiles shall be ¾ inch x 1-3/4 inch.
   c. Vertical Sidelite Heel Stiles shall be 2-1/8 inch x 1-3/4 inch.

7. Bottom Rails shall be 7 inch.

8. Weather-stripping shall be slide-in type, replaceable pile mohair seals retained by the aluminum extrusions. The following types of weather-stripping are required: complementing weather-stripping on the joining vertical stiles of the sidelite and sliding door panels, complementing weather-stripping on the lead edge of the lock stiles of bi-parting doors, single pile weather-stripping between the carrier and the header, single pile weather-stripping on the lead edge stile of single slide door panels, dual pile weather-stripping on the pivot stile of breakout sidelite panels. Bottom rails shall be provided with an adjustable nylon sweep.
   a. EcoDoor Seals: High pile mohair weather stripping on the lock stile of the sliding doors, integrated mohair weather stripping with vinyl fin on the joining vertical stiles of the sidelite and sliding door panels, and expandable foam inserts in leading stile of sidelite panels at pockets for interlocks. Bottom rails shall be provided with a concealed adjustable nylon sweep.

9. Glass: Glazing shall comply with ANSI Z97.1, GANA Section 10.
   a. Exterior Active Door and Fixed Transom and Sidelite Panels: 1 inch total thickness, Double Pane Insulated Glass Units (Type IG-DP): ASTM E774.
      1) Manufactured by PPG: Sungate 500.
      2) Outer Pane: Starfire with Low E coating on Surface 2.
      3) Inner Pane: Laminated Clear.
      4) U-Value: 35 summer/winter; shading coefficient .71; SHGC = .62, LSG = 1.19.
      5) All glass in doors, transom and sidelights must be tempered.
   b. Interior Active Door and Fixed Sidelite Panels: ¼ inch, Clear Tempered Glass (Type SG-CT): ASTM C1048, Kind FT Fully tempered, Condition A, uncoated, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select.

B. Door Carriers: Manufacturer’s standard carrier assembly that allows vertical adjustment.
   1. Carriage Assembly: Carriage bar with two wheel assemblies on active leaf two and one wheel assembly on active leaf one. Each assembly shall have tandem roller wheels.
   2. Roller Wheels: two heavy duty Delrin roller wheels per wheel assembly, 1-7/16 inch diameter; four (4) roller wheels for active leaf two, and two (2) roller wheels for active leaf one for operation over a replaceable aluminum track. Roller wheels single journal with sealed oil impregnated bearings.
3. Minimum of two (2) heavy duty anti-risers per leaf, minimum of two redundant derailment guards per leaf.
4. Active leaf one to have impact absorption bar between anti-risers for clear door opening collisions.

C. Framing Members: Provide automatic entrances as complete assemblies. Manufacturer’s standard extruded aluminum framing reinforced as required to support loads.

D. Header: Manufacturer’s standard extruded aluminum header with a replaceable aluminum track extending full width of entrance unit. Header to conceal door operators, carrier assemblies, and roller track; complete with hinged access panel for service of door operator, and controls.
1. Header Span: Maximum 103 inch using 1-3/4 inch jambs for full breakout entrances with equal door leaves.
   a. Capacity: Capable of supporting active breakout leafs up to maximum of 80 lb per leaf when header is supported per manufacturer’s recommendations.
   a. Header height including the sensor plate cap which spans the clear door opening width is 8 inches high.
3. Entrance Height: Maximum overall height to top of header not to exceed 92 inches.
4. Header Access: Continuous hinge at top of header allows cover to swing and allow complete access to operator and internal electronic and mechanical assemblies.
5. Design: Closed header when doors in closed position.

2.4 HARDWARE

A. Hardware: Provide manufacturer’s standard hardware as required for operation indicated.
1. Breakaway arms and bottom pivot assemblies shall be supplied by the manufacturer and shall be adjustable to comply with applicable codes.
2. Magnetic catch(s) to retain breakout door and sidelite panels in the closed position.
3. Alignment wheels shall be provided to maintain proper door spacing.
4. Locking hardware shall be provided as indicated.
   a. Mortise type hookbolt latch, fully concealed in the vertical stile.
      1) Interior Side: Keyed cylinder. Lock indicators shall be provided if required by code.
      2) Exterior Side: Keyed cylinder.
      3) Armored strikes, both internally and externally mounted, shall be provided to protect the lock.
5. Keyed cylinders shall be provided as indicated.
   a. Yale cylinder with 6 or 7 pin core. Verify compatibility with Owner’s existing keying system. Provide alternate cylinder if necessary.
B. Guide Track/Threshold: Manufacturer’s threshold as indicated.
   1. Threshold: 1/2 inch high by 6 width continuous aluminum threshold with integral track shall span the entire width of the sliding door header and fit between the vertical framing members. Threshold design shall allow for optional extruded lead-up ramps to securely interlock to flat section to meet ADA requirements.

2.5 DOOR OPERATORS AND CONTROLS

A. Door Operator and Controller:
   1. Electro-mechanical controlled unit utilizing a high-efficiency, energy efficient, DC motor requiring a maximum of 3 amp current draw, allowing 5 operators on one 20 amp circuit. The supplied system shall have the capability to operate at full performance well beyond a brown out and high line voltage conditions (85V – 265V) sensing changes and adjusting automatically. The operator shall allow an adjustable hold open time delay of 0 to 60 seconds and have internal software to incorporate a self-diagnostic system.
   2. Operating Temperature Range: -31°F to 130°F.

B. Microprocessor Control Box:
   1. Modular control unit to allow for changing technology. Factory-adjusted configuration with opening and closing speeds set to comply with ANSI/BHMA A156.10 requirements and electronic dampening to reduce wear on drive train. Should the drive train operations deviate from design criteria ranges, Watchdog Control Circuit Monitoring will assume command of the system and shut down the automatic function allowing a secondary supervisory circuit to perform as a backup. Control unit shall allow the following functions:
      a. Diagnostics with the ability to produce application data.
   2. Mode Selector Control:
      a. Multi-position, rotary knob mode selector control shall allow selection of the indicated functions to be engaged when switch is turned to the appropriate setting.
      b. Mode Selector Control Mounting:
         1) Jamb mounted.
      c. Mode selector control to allow the following functions:
         1) “Off”
         2) “Exit Only” one way traffic with automatic operation from the interior.
         3) “Two Way Traffic” allowing automatic operation from exterior and interior.
         4) “Partial Opening” energy saving door position allows door to automatically adjust opening width based on amount of usage, that is, full open during high use and partial open during low use. The control for this setting is programmable allowing adjustment to both the usage setting and the opening width.
         5) “Hold Open” doors activated and held in the full open position.
2.6 ACTIVATION AND SAFETY CONTROL DEVICES

A. General: Provide the types of activation and safety devices specified in accordance with ANSI/BHMA standards, for the condition of exposure and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated. Coordinate activation and safety devices with door operation and door operator mechanisms.

B. Combination Activation Motion Sensor/Safety Presence Sensor:
   1. Shall be a sliding door sensor utilizing K-band microwave technology to detect motion and focused active infrared technology to detect presence, combined in a single housing surface mounted on each side of the header.
      a. Presence sensor shall remain active at all times.
      b. The sensor shall communicate with the automatic door operator through a self-monitoring connection that allows the door to go into a fail-safe mode preventing the door from closing in the event of a sensor failure.
   2. Motion/presence detecting sensors to be field installed and adjusted.

2.7 ELECTRICAL

A. High-Efficiency DC Motor: Maximum of 3 amp current draw, allowing 5 operators to run on one 20 Amp circuit.

B. Power: Self-detecting line voltage capable control. 120 VAC through 240 VAC, 50/60 Hz, 3 amp minimum incoming power with solid earth ground connection for each door system.

C. Key Impulse Input: Input for card readers or remote activation with independent adjustable hold open delay.

D. Wiring: Separate internal channel raceway free from moving parts.

E. Brown out / high voltage capability: System has capability to operate at full performance well beyond brown out and high voltage line conditions (85 V – 265 V) sensing changes and adjusting automatically.

2.8 ALUMINUM FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Painted Finish:
   1. High performance Kynar based, organic fluoropolymer finish complying with AAMA 2605, white in color to match other exterior building components.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, wall and floor construction, and other conditions affecting performance.

B. Examine roughing-in for electrical source power to verify actual locations of wiring connections.

C. Proceed only after such discrepancies or conflicts have been resolved.

3.2 INSTALLATION

A. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.

B. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.
   1. Install surface mounted hardware using concealed fasteners to greatest extent possible.
   2. Set headers, carrier assemblies, tracks, operating brackets and guides level and true to location with anchorage for permanent support.

C. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.

D. Glazing: Glaze sliding automatic entrance door panels in accordance with the Glass Association of North America (GANA) Glazing Manual, published recommendations of glass product manufacturer, and published instructions of automatic entrance system manufacturer.

E. Sealants: Seal perimeter of entire opening to provide a weather and air tight installation.
   1. Set thresholds, bottom guide and track systems and framing members in full bed of sealant.
   2. Seal perimeter of framing members with sealant.
      a. At exterior perimeters, use ASTM C 920, Type S, Grade NS, Class 35 high performance sealant such as MasterSeal NP 1 by BASF, white in color to match frames.
      b. At interior perimeters use a siliconized acrylic emulsion latex; ASTM C834, single component, white in color and paintable, such as Tremflex 834 manufactured by Tremco.

F. Signage: Apply signage on both sides of each door and sidelite as required by ANSI/BHMA A156.10 and manufacturers installation instructions.
3.3 ADJUSTING

A. Adjust door operators, controls and hardware for smooth and safe operation and for weather tight closure. Adjust doors in compliance with ANSI/BHMA A156.10.

B. Verify installation and alignment of all entrance weather-stripping as required for compliance with specified air infiltration requirements.

3.4 FIELD QUALITY CONTROL

A. Before placing doors into operation, AAADM certified technician shall inspect and approve doors for compliance with ANSI/BHMA A156.10. Certified technician shall be approved by the manufacturer.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door installation.

B. Clean glass and metal surfaces promptly after installation. Remove excess sealants, compounds, dirt and other substances. Repair damages to match original finish.

3.6 DEMONSTRATION

A. Engage a factory-authorized representative to train Owner's maintenance personnel to adjust, operate, and maintain safe operation of the door.

END OF SECTION