PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes the following types of automatic entrance doors:
   1. Exterior and interior, bi-parting, sliding automatic entrance doors.

B. Related Sections:
   1. Section 08410 – Aluminum-Framed entrances and Storefronts
   2. Section 08700 - Door Hardware
   3. Section 08800 – Glass and Glazing
   4. Section 16000 - Electrical

1.02 REFERENCES

General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

A. Underwriters Laboratories (UL):
   1. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.

B. American National Standards Institute (ANSI) / Builders' Hardware Manufacturers Association (BHMA):
   1. ANSI/BHMA A156.10: Standard for Power Operated Pedestrian Doors.

C. American Association of Automatic Door Manufacturers (AAADM):

1.03 DEFINITIONS

A. Activation Device: A device designed to detect a person in the vicinity of the doorway and provide a signal to the door operator to open the door.

B. Safety Device: A device designed to detect the presence of a stationary person in the vicinity of the doorway and provide a signal to the door operator to prevent a door from opening or closing.

1.04 PERFORMANCE REQUIREMENTS

A. Provide automatic entrance door assemblies capable of withstanding structural loads based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Operating Range: 5° F (15° C) to 167° F (75° C).

C. Break-Away Requirements: Not more than 50 lbf (222 N) applied 1 inch (25mm) from the leading edge of the lock stile for the break out panel to open.

D. Closing-Force Requirements: Not more than 30 lbf (133 N) required, measured at the leading edge, to prevent the door from closing at any point in the closing cycle.

1.05 SUBMITTALS

A. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Specification Sections.

B. Shop Drawings: Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work.

C. Closeout Submittals:
1. Owner's Manual
2. Warranties

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained for installation and maintenance of units required for this Project. Qualified installer will be AAADM certified to the current ANSI 156.10 standard at time of Project and hold a current AAADM certified technician number.

B. Manufacturer Qualifications: A qualified manufacturer with company certificate issued by AAADM.

C. Certifications: Automatic sliding door systems shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards:

1. ANSI/BHMA A156.10.
2. NFPA 101.
3. Underwriter's Laboratories 325 (UL) listed.

D. Source Limitations: Obtain automatic entrance door assemblies through one source from a single manufacturer.

E. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of automatic entrance door assemblies and are based on the specific system indicated.

F. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

G. Emergency-Exit Door Requirements: Comply with requirements of authorities having jurisdiction for automatic entrance doors serving as a required means of egress.

1.07 PROJECT CONDITIONS

A. Field Measurements: General Contractor shall verify openings to receive automatic entrance door assemblies by field measurements before fabrication and indicate measurements on Shop Drawings.

B. Mounting Surfaces: General Contractor shall verify all surfaces to be plumb, straight and secure; substrates to be of proper dimension and material.

C. Other trades: General Contractor shall advise of any inadequate conditions or equipment.

1.08 COORDINATION

A. Templates: Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing automatic entrance doors to comply with indicated requirements.

B. Electrical System Roughing-in: Coordinate layout and installation of automatic entrance door assemblies with connections to power supplies.

1.09 WARRANTY

A. Automatic Entrance Door parts shall be free of defects in material and workmanship for a period of Two (2) year from the date of installation. Physical abuse, Acts of God, and any service performed by an unauthorized factory trained technician shall null and void warranty.

B. During the warranty period the Owner shall engage a factory-trained AAADM certified technician to perform service and repairs annually. An AAADM safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.

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

PART 2 - PRODUCTS

2.01 AUTOMATIC ENTRANCE DOORS

A. Provided by: Door Control Services, Inc. ♦ 321 VZ County Road 4500, Ben Wheeler, TX 75754 ♦ Phone: 888-833-7857 ♦ Fax: 877-888-5220 ♦ Website: www.doorcontrolservices.com ♦ Email: service@doorcontrolservices.com ♦ (NO SUBSTITUTIONS)

2.02 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   1. Aluminum frames and doors: 6063-T5
   2. Extruded members including header: 606-T5

2.03 AUTOMATIC ENTRANCE DOOR ASSEMBLIES

A. Provide manufacturer's standard automatic entrance door assemblies including doors, sidelites, framing, headers, carrier assemblies, roller tracks, door operators, activation and safety devices, and accessories required for a complete installation.

B. Sliding Automatic Entrance Doors:
   1. Bi-Part Slide Doors:
      a. Configuration: Two sliding leaf(s) and two full sidelites
      b. Traffic Pattern: Two-way
      c. Emergency Breakaway Capability
      d. Mounting: Between jambs

2.04 COMPONENTS

A. Framing Members: Manufacturer's standard extruded aluminum reinforced as required to support imposed loads.
   1. Nominal Size: 1 ¾ inch by 4 ½ inch (44.45 mm by 115 mm)

B. Stile and Rail Doors and Sidelites: Manufacturer's standard 1 ¾ inch (44.45 mm) thick glazed doors with extruded-aluminum tubular stile and rail members. Door and side panel are constructed with a four (4) point connection where all horizontal and vertical rails meet.
      a. Connection Method: Interlocking horizontal and vertical rails, additional interlocking clip, full length interlocking horizontal raceway to house full length interlocking through bolt.
   1. Glazing Stops and Gaskets: Snap-on, extruded-security aluminum stops and preformed gaskets
   2. Stile Design: Narrow stile with vertical rails 2 1/4 inch (57.15 mm) nominal width
   3. Bottom Rail Design: Minimum 10 inch (101.6 mm) nominal height with stacked rails
   4. Muntin Bars: Horizontal muntin bar for each door; 1 3/4 inch (44.45 mm) nominal width

C. Glazing: Performed under Division 8 Section Glazing. All glazing furnished “by others” shall be 1/4 inch (6 mm) tempered, unless otherwise specified.

D. Headers: Fabricated from extruded aluminum and extending full width of automatic entrance door units to conceal complete door operator, extruded track, track wheels and replaceable cap track. Provide honeycomb or beam support with track mounted at honeycomb or beam support location of header. Track shall be a dual track consisting of upper weight support track with replaceable cap track, and bottom engulfing track to allow the track wheels to completely engulf the track to insure against derailment of sliding door leaf(s). Hinged access panels for service and adjustment of door operator and control. Secure panels to prevent unauthorized access.

   1. Mounting: Concealed, with one side of header flush with framing.
   2. Capacity: Capable of supporting doors up to 220 lb (100 kg) per leaf over spans up to 16 feet (4.572 m) without intermediate supports.

E. Carrier Assemblies and Overhead Roller Tracks: Manufacturer's standard door carrier assembly shall permit overall lateral and vertical adjustment of 5/8 inch with positive mechanical lock. Each door carrier shall incorporate panic hardware and two (2) carriage wheel assemblies.
   1. Each carriage wheel assembly shall have:
      a. A minimum of two (2) weight supporting contact track wheels for a total of four (4) continuous contact roller wheels per active door leaf.
      b. Two (2) track wheels shall support the weight of the door and two (2) track wheels shall encompass the track to ensure smooth, quiet and trouble free operation.

c. The two (2) bottom continuous contact wheels encompassing the track will prevent the door from derailment avoiding any jumping of the active leaf(s) when operating cycle or recycle is initiated.
d. Roller wheels shall incorporate doubled journal sealed, greased, impregnated bearings.
e. Track wheels shall glide on the replaceable cap track into the main support track profile beam.
f. At least one (1) wheel assembly of each sliding door leaf must have a ground condition to ensure against static electricity created by the moving door leaf.

2. Anti-rise wheels or devices that do not make constant contact with track and encompass track will not be considered equal.

F. Emergency Breakaway: The system shall be equipped with emergency release hardware to allow the door to swing out during emergency egress. Active door leaf(s) swing out in the direction of egress.
1. Exterior sliding door leaf(s) shall swing out to 90 degrees from any position in the sliding mode.
2. Breakaway pressure shall be field adjustable to local Building Code requirements.
3. Breakout Latching System shall be of a high quality heavy-duty two piece adjustable ball catch with exposed metal to be a finish anodized to match door.
a. Breakaway system shall be mounted into the carrier assembly and back stile of sliding door leaf
b. The breakout pivoting shaft shall be a 1 1/16” X 17” long pivoting shaft

G. Signage: Provide signage in accordance with ANSI/BHMA A156.10.

2.05 DOOR OPERATORS

A. Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, operation under normal traffic load for type of occupancy indicated.

B. Electromechanical Operator: Microprocessor controlled, electro-mechanical operator consisting of a DC motor with sealed ball bearings and a mechanical drive assembly. The DC motor shall be maintenance free with a motor circuit card and revolution counter. Motor shall be housed in its own independent motor housing to protect from contamination as well as static electricity.
1. Operation: Power opening and power closing.
2. Features:
a. Automatically monitoring of mass, weight and friction
b. Automatically set the opening and closing creep positions, including the fully open and fully closed position of the door
c. Adjustable time delay between 0 and 10 seconds or night mode of 0 to 30 seconds
d. On / Off/ Hold Open Switch
e. Resistance or obstacle sensing
f. On/Off switch to control electric power to operator.
g. Partial open mode for energy conservation or light traffic areas
h. Exit only mode

3. Mounting: Concealed.
4. Drive System: Mechanical direct drive gear assembly

C. Electrical service to door operators shall be provided under Division 16 Electrical. Minimum service to be 110 VAC, 50/60 Hz, 10 amps.

2.06 ELECTRICAL CONTROLS

A. Motor Circuit Card: The motor will have a revolutionary counter and an independent motor circuit card.
   1. The motor circuit card shall monitor constant communication with the microprocessor control and shall have the capability to know exactly where the door is during all points of travel thus guaranteeing the doors will never bang open/closed.
   2. The travel of the door shall be monitored every ¼" of travel of the door leaf(s).
   3. Motors that only rely on a revolution counter and a microprocessor will not be considered equal.

B. Slow Search: The microprocessor control shall have the capability of sensing a resistance or obstacle in the path of the door. If contact is made to an obstacle, the automatic door shall reverse and close at full speed until approximately 1" prior to the point of contact with the obstacle. Then the microprocessor shall automatically reduce the speed to slow search to insure minimum abuse to equipment and to act as an additional safety factor.
   1. Door packages that do not have slow search or slow search at point of contact or that stay in the slow search until open and close cycle is completed will not be considered equal.

2.07 ACTIVATION AND SAFETY DEVICES

A. Activation Sensors: Activation sensors shall be mounted on each side of door header to detect pedestrians in the activating zone, and to provide a signal to open doors in accordance with ANSI/BHMA A156.10. Units shall provide bi-directional or uni-directional operation and shall utilize K-band microwave technology to detect all motion in both directions.

B. Presence Sensors: Presence sensors shall be provided to sense people or objects in the threshold safety zone in accordance with ANSI/BHMA A156.10. Units shall be fully adjustable, and shall function accordingly with motion sensors provided. The sensor shall remain active at all times. The door shall close only after all sensors detect a clear surveillance field.

C. Additional Integral Sensing: The microprocessor will encompass an additional integral sensing device that shall automatically reverse the door(s) should an obstruction be encountered during the closing cycle. Upon this obstruction the door(s) shall return to the full open position. The next full cycle, after the obstruction has been encountered, shall be at regular speed until approximately 2" prior to the obstacle, and then reduce to a "slow scan mode" to search for the obstruction. Once the door has completed a close cycle with no further obstructions, the door will operate at normal operating speeds.

D. Provide integrated security alarm contacts concealed in header.

2.08 HARDWARE

A. Provide units in sizes and types recommended by automatic entrance door and hardware manufacturers for entrances and uses indicated.

B. Emergency Breakaway Feature: Provide release hardware that allows panel(s) to swing out in direction of egress to full 90 degrees from any position in sliding mode. Maximum force to open panel shall be 50 lbf (222 N) applied 1" from the leading edge of the lock stile in accordance to

ANSI/BHMA A156.10. Interrupt powered operation of panel operator while in breakaway mode.

C. Deadlocks: Manufacturer's standard deadbolt operated by exterior cylinder and interior thumb turn; with minimum 1 inch (25 mm) long throw bolt; ANSI/BHMA A156.5, Grade 1.
   1. Cylinders: Standard cylinder and thumbturn combination
   2. Hook Latch: Laminated-steel hook, mortise type, BHMA A156.5, Grade 1.
   3. Two-Point Locking: Provide locking system that incorporates a device in the stile of active door leaves that automatically extends a flush bolt into overhead carrier assembly.

D. Sliding Weather Stripping: Manufacturer's standard replaceable components complying with AAMA 701; made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

E. Weather Sweeps: Manufacturer's optional adjustable nylon brush sweep mounted to underside of door bottom.

2.09 ALUMINUM FINISHES

A. Anodized:
   1. Clear, AAC23A31

PART 3 - EXECUTION

3.01 INSPECTION

Examine conditions for compliance with requirements for installation tolerances, header support and other conditions affecting performance of automatic entrance doors. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

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

B. Entrances: Install automatic entrance doors plumb, level, square, and in true alignment with established lines and grades without warp or rack of framing members and doors.

C. Anchor frames 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.

3.03 FIELD QUALITY CONTROL

Testing Services: Factory Trained Installer shall test and inspect each automatic entrance door to determine compliance of installed systems with applicable ANSI standards.

3.04 ADJUSTING

Adjust door operators, controls, and hardware for smooth and safe operation, for weather-tight closure, and complying with requirements in ANSI/BHMA A156.10.

3.05 CLEANING AND PROTECTION

Clean glass and aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish. Comply with requirements in Division 8 Section “Glazing”, for cleaning and maintaining glass.

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