IF THE HIDDEN GUIDE SPECIFICATION CONVENTIONS DO NOT APPEAR PRECEEDING THIS

NOTE, TURN THEM ON AS FOLLOWS.

**FOR MICROSOFT WORD 2000 and 2003**, CLICK ON SHOW/HIDE ICON IN MENU BAR OR CHOOSE

TOOLS IN MENU BAR. THEN CLICK OPTIONS, VIEW TAB, UNDER FORMATTING MARKS, CHECK

HIDDEN TEXT.

**FOR MICROSOFT WORD 2007,** CLICK ON MICROSOFT OFFICE ICON LOCATED IN UPPER LEFT

CORNER OF MENU BAR. CLICK ON WORD OPTIONS AT BOTTOM OF DROP DOWN. THEN CLICK

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MENU BAR. IN THE DROP DOWN, CLICK ON OPTIONS, AND A WORD OPTIONS BOX WILL

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(Delete this note before printing.)

SECTION **08 42 29.63**

BLAST RESISTANT SLIDING AUTOMATIC ENTRANCES WITH BREAK-AWAY

(Edited from DeCA June 2022 Design Criteria)

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

Exterior and/or interior blast-resistant, bi-parting-sliding, automatic entrance door Assemblies with break-away sliding leaves and fix sidelights.

This Section specifies blast-resistant sliding automatic entrance door assemblies in accordance with UFC 4-010-01. Sliding automatic entrance door system glazing shall comply with glass type and minimum frame bite provisions of UFC 4-010-01, Appendix B, Standard 10.

* + - * 1. Related Sections:

Division 01 – Administrative Requirements (Submittal Procedures)

Division 7 – Joint Sealants (for sealant to the extent not specified in this section).

Division 8 - Commissioning of Openings.

Division 8 - Door Hardware (for hardware to the extent not specified in this Section).

Division 8 Glazing (for glazing to the extent not specified in this Section).

Division 26 Electrical (for electrical connections provided separately including conduit and wiring for power to sliding automatic entrances).

* + - 1. REFERENCES
         1. American Society for Testing and Materials (ASTM).

ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.

ASTM B209 Standard Specification for Aluminum and Aluminum Allow Sheet and Plate.

ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences across the Specimen.

ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM F1642 – Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loadings.

ASTM F2248 – Standard Practice for Specifying an Equivalent 3-Second Duration Design Loading for Blast Resistant Glazing Fabricated with Laminated Glass.

ASTM E1300 – Standard Practice for Determining Load Resistance of Glass in Buildings.

* + - 1. DEFINITIONS
         1. Activation Device:

Device that, when actuated, sends an electrical signal to the door operator to open the door.

* + - * 1. Safety Device:

A device that detects the presence of an object or person within the vicinity of the doorway and provides a signal to prevent the door from opening or closing.

* + - * 1. For Automatic door terminology: Refer to BHMA A156.10
      1. PERFORMANCE REQUIREMENTS
         1. General:

Provide automatic entrance door assemblies that comply with UFC 4-010-01 DoD Antiterrorism Standards and capable of withstanding structural loads and thermal movements based on testing manufacturer’s standard units in assemblies similar to those indicated for this Project.

Delete paragraph below if scope of work is limited to interior sliding automatic door systems.

Delegated Design: Design sliding automatic door systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

Compliance

ANSI/BHMA A156.19 Power Operated Pedestrian Doors

UL 325 listed

Automatic door equipment accommodates medium to heavy pedestrian traffic.

Automatic Door equipment accommodates up to the following weights for active leaf doors:

Bi-part doors: 220 lbs (100 kg) per active leaf.

* + - * 1. UFC 4-010-01 DoD Antiterrorism Standards:

Blast Loading:

The blast resistant entrance system analysis is to comply with the Department of Defense requirements for antiterrorism.

Referenced standards utilized in analyzing performance to include:

UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings.

UFC 4-010-02 DoD Minimum Antiterrorism Standoff Distances for Buildings.

ASTM F2248-03 Standard Practice for Specifying an Equivalent 3-Second Duration Design Loading for Blast Resistant Glazing Fabricated with Laminated Glass.

ASTM E1300 Standard Practice for Determining Load Resistance of Glass in Buildings.

Aluminum Design Manual. The Aluminum Association, Inc.

Proof of certification will be provided by the manufacturer. The structural engineering calculations shall confirm the structural capacity of the proposed opening to support the blast loads impacting the entrance system and the anchorages of the entrance system to the surrounding construction. If calculations determine the need for additional structural support, supplemental support shall be provided by others (not by this contract).

Deflection Limitations:

The deflection of any framing member in a direction normal to the plane of the wall when subjected to the specified design loads shall not exceed L/160 or a maximum deflection of ¾”.

Glazing:

Glazing and installation shall comply with provisions of UFC 4-010-01, Appendix B, Standard 10 and ASTM F2248.

Refer to DeCA Design Criteria Handbook 08461, Sliding Automatic Entrance Doors, for the basis of exterior frame member design specified below; revise below if project overall antiterrorism requirements are different.

* + - * 1. Structural Loads:

Wind Loads:

Provide exterior automatic entrance door assemblies, including anchorage, capable of withstanding wind pressures acting inward and outward normal to the plane of the wall.

Refer to Division 01 Section Summary of Work for design wind velocity and building exposure factor.

Determine design loads using the appropriate coefficients for the automatic entrance door assemblies configurations indicated.

Seismic Loads:

Provide automatic entrance door assemblies capable of resisting the effects of earthquake motions.

Refer to Division 01 Section Summary of Work for seismic data, i.e., design category, use group, and occupancy importance factor.

Determine seismic loads using the appropriate exposure coefficient for the automatic entrance door assemblies.

Delete paragraph below if scope of work is limited to interior aluminum framed systems and does not require security protection in accordance with UFC 4-010-01.

* + - * 1. Thermal Movements:

Provide automatic entrance doors that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

* + - * 1. Operating Temperature Range:

Provide automatic entrance door operators capable of operating between minus 30 deg F and plus 122 deg F.

* + - * 1. Air Infiltration:

Maximum air leakage through fixed glazing and framing areas of 1.25 cfm/sq. ft. of fixed entrance system area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft.

* + - * 1. Entrapment Force Requirements:

Sliding Doors: Not more than~~.~~ Sliding doors provided with a breakaway device shall require no more than 50 lbf (222N) applied 1 inch (25 mm) from the leading edge of the lock stile for the breakout panel to open.

Closing-Force Requirements:

Not more than 30 lbf required to prevent door from closing.

* + - 1. SUBMITTALS
         1. Product Data:

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for automatic entrance doors.

* + - * 1. Shop Drawings:

Include plans, elevations, sections, details, hardware mounting heights, and attachments to other Work.

Delete paragraph below if Contractor is not required to assume responsibility for exterior frame member design.

For systems indicated to comply with performance requirements and design criteria, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

Show minimum frame bite for glazing door, sidelight, and transom systems.

Wiring Diagrams: Detail wiring for power, signal, and control systems and differentiate between manufacturer-installed and field-installed wiring.

* + - * 1. Sustainable **[LEED]** Submittals:

Product Data **[for Credit IEQ 4]:** For primers and other finishes, adhesives and sealants used inside the weatherproofing system, including printed statement of VOC content.

* + - * 1. Samples for Verification:

For each type of exposed finish required, in manufacturer's standard sizes.

* + - * 1. Product Test Reports:

Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating current automatic entrance door systems comply with requirements.

* + - * 1. 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.
        2. 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 hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance. Include spare parts list.
        3. Warranties: Special warranties specified in this Section.
        4. Submittal List:

Reference Submittal Item Quantity Action

1.5A Product Data X R

1.5B Shop Drawings X R

1.5C Sustainable **[LEED]** Submittals X I

1.5D Samples for Verification X R 1.5E Product Test Reports X R

1.5F Manufacturer’s Field Reports X I

1.5G Operating and Maintenance Manuals X I

1.5H Warranties X I

X Submit quantity specified in Division 01 Section Administrative Requirements.

R Review each submittal, mark to indicate action taken, and return.

I Submittal is for information or record purposes only. No action will be taken*.*

* + - 1. QUALITY ASSURANCE
         1. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 10 years of documented experience in manufacturing of automatic sliding doors and equipment and that have a proven record of successful in-service performance.

A manufacturer with company certificate issued by AAADM..

Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

* + - * 1. Installer Qualifications:

Installers trained by the primary product manufacturer for sliding entrances of type indicated for this Project, with a minimum 3 years documented experience installing and maintenance of automatic sliding doors and equipment and whose work has resulted in construction with a record of successful in-service performance.

Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

* + - * 1. Professional Engineer Qualifications:

A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of automatic entrance door systems that are similar to those indicated for this Project in material, design, and extent.

* + - * 1. Testing Agency Qualifications:

An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the automatic entrance door assembly testing indicated, as documented according to ASTM E 548.

Certified by AAADM.

* + - * 1. Source Limitations:

Obtain Blast Resistant Sliding Automatic Entrance Doors (excluding Standard Rated Sliding Doors) through one source from a single manufacturer.

* + - * 1. Product Options:

Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, or in-service performance.

Do not modify door stile width. Do not modify other intended aesthetic effects, as judged solely by Contracting Officer, except with Contracting Officer’s approval. If modifications are proposed, submit comprehensive explanatory data to Contracting Officer for review.

* + - * 1. Welding Standards:

Comply with AWS D1.2, "Structural Welding Code—Aluminum”.

* + - * 1. ANSI/BHMA Standard:

ANSI/BHMA A156.10 (rev. 05), "Power Operated Pedestrian Doors”.

* + - * 1. UL Standard:

Provide power door operators that comply with UL 325.

* + - * 1. Emergency Exit Door Requirements:

Comply with requirements of authorities having jurisdiction for automatic entrance doors serving as a required means of egress.

Emergency Egress Feature: Door operation shall be connected to emergency power system. In the event of a power failure to doors, sliding door leafs shall slide open by battery powered opener.

* + - 1. PROJECT CONDITIONS
         1. Field Measurements:

Verify automatic entrance door openings by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

* + - 1. COORDINATION
         1. Coordinate sizes and locations of recesses in concrete floors for recessed tracks and thresholds if applicable. Concrete, reinforcement and formwork are specified in Division 03.
         2. Electrical System Roughing-in: Coordinate layout and installation of automatic entrances with connections to power supplies and access control system as applicable.
      2. WARRANTY
         1. General Warranty: Reference Division 01, General Requirements. 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.
         2. 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.
         3. During the warranty period a factory-trained technician shall perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.
         4. During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal business hours.
         5. 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.

1. PRODUCTS
   * + 1. MANUFACTURERS
          1. Basis-of-Design Products: To establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other manufacturers, a specific manufacturer's product is named and accompanied by the words "basis-of-design," including make or model number or other designation. Subject to compliance with requirements, provide either the named products or equal products.
          2. Blast Resistant Bi-parting Sliding Units:

Basis-of-Design Products: Subject to compliance with modification requirements, provide ASSA ABLOY Entrance Systems; Besam Defender Series blast mitigation sliding door system

Configuration: Bi-parting, Blast Resistant, Impact Rated, four panel door unit with two operable leaves and two fixed sidelite (side screen) units.

Traffic Pattern: As shown on drawings

Mounting: Overhead header installed between jambs.

Emergency Breakaway Capability: Exterior sliding leaves

Dimensions: Confirm door package dimensions as indicated on Architectural drawings

* + - 1. Materials
         1. Aluminum:

Alloy and temper recommended by manufacturer for type of use and finish indicated, complying with standards indicated below

Extruded: ASTM B 221/ASTM B 221M.

Sheet and Plate: ASTM B 209/ASTM B 209M.

Welding Rods and Bare Electrodes: AWS A5.10.

* + - * 1. Glazing and Glazing Sealants:

As specified in Division 08 Section Glazing.

* + - * 1. Sealants and Joint Fillers:

Refer to Division 07 Section Joint Sealants for joints at perimeter of entrance framing system.

* + - * 1. Nonmetallic, Shrinkage-Resistant Grout:

Premixed, nonmetallic, noncorrosive, non-staining grout; complying with ASTM C 1107; of consistency suitable for application.

* + - * 1. Bituminous Paint:

Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos; formulated for 30-mil thickness per coat.

* + - 1. ALUMINUM DOORS AND FRAMES
         1. Doors: Extruded Aluminum, Alloy 6063-T5.

Fabricate doors in profiles indicated. Reinforce as required to support imposed loads and for installing hardware. Factory assemble door and frame units.

Door panels shall have a minimum structural wall thickness including adjoining horizontal members and perimeter frames where applicable to achieve the specified explosion performance.

Door Construction shall be by means of concealed cleats (shear blocks) and tie rods (through bolts).

Glass Stops shall provide minimum glass bite according to UFC 4-010-01 standard 10 and 12

Manufacturer’s standard replaceable weather-stripping. Complementing weather-stripping shall be provided on joining vertical and lead edge stiles. Single pile weather stripping between the carrier and the header on the lead stile(s) of the sidelite(s) and the trailing stile(s) of the sliding door(s). Bottom rails shall be provided with an adjustable nylon brush sweep.

Vertical Stiles including the integral glazing pocket shall be a nominal 4-1/2 inch face width.

Bottom Rails shall be standard which includes the integral glazing pocket shall be a nominal 10 inch face width.

Muntin bars including the integral glazing pocket shall be a nominal 4-1/4 inch face width.

* + - * 1. Framing: Extruded Aluminum, Alloy 6063-T5.

Fabricate tubular and channel frame assemblies in configuration indicated, with welded or mechanical joints according to manufacturer's standards. Provide subframes and reinforcement of types indicated or, if not indicated, as needed for a complete system to support required loads.

Exterior Framing: Fabricate components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior. Provide anchorage and alignment brackets for concealed support of assembly from the building structure. Allow for thermal expansion of exterior units.

* + - * 1. Glass: Glazing shall comply with ASTM F2248 and ASTM E1300, overall thickness to be 7/16 maximum.

Glazing Door Panels: 7/16” laminate single glazing consisting of .030 or .060 polyvinyl-butyral (PVB) interlayers, per UFC 4-010-01 table B-2 and B-3.

Glazing Installation: Silicone glazed in a fixed glazing pocket. Glazing shall be factory installed by the door manufacturer.

* + - * 1. Door Carriers: Manufacturer’s standard carrier assembly that allows vertical adjustment.

Roller Wheels: Three enhanced carriage wheel assemblies with heavy duty anti-riser plates, per active door leaf for operation.

Lateral carriage restraint mechanism.

* + - * 1. Framing Members: Provide automatic entrances as complete assemblies. Manufacturer’s standard extruded aluminum framing reinforced as required to support loads.

Vertical Jambs shall be 1-3/4 inches (44 mm) by 4-1/2 inches (114 mm).

* + - * 1. Header: Manufacturer’s standard extruded aluminum header unit extending full width of entrance unit to conceal door operators, carrier assemblies, and roller track, complete with hinged access panel for service of door operator, and controls.

Size: 7-3/4-inches (187 mm) wide by 6-7/8-inches (175 mm) high.

Hinge Point: Continuous hinge at top of header allows for complete access to operator and internal electronic and mechanical assemblies.

Design: Manufacturer’s standard closed header.

* + - * 1. Hardware: Provide manufacturer’s heavy duty hardware as required for operation indicated.

Provide units as indicated in size, number, and type recommended by manufacturer for entrances required. Finish exposed parts to match door finish, unless otherwise indicated

Breakaway arms and bottom pivot assemblies shall be supplied by the manufacturer and shall be adjustable to comply with applicable codes.

Locking hardware shall be provided as indicated.

Two point locking system with throw rod and solid steel bolts into carrier arm and into threshold.

Interior Side: Lock indicators shall be provided if required by code.

Exterior Side: Armored steel reinforcement as required.

Exterior jamb mounted key switch to unlock sliding door operation.

Keyed cylinders exterior with thumbturn (interior) replaceable core.

* + - * 1. Guide Track/Threshold: Manufacturer’s threshold as indicated.

Manufacturer’s standard door guide track concealed in the door leaf bottom rail with brushed stainless steel floor guide brackets and door leaf heel restraint.

* + - 1. SLIDING DOOR OPERATOR
         1. Door Operator and Controller:

Shall be a Besam electro-mechanical controlled unit. The operator shall integrate a high-efficiency, energy efficient, DC motor requiring a minimum of 3 A current draw, allowing 5 door systems on one 20 A 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 be of the type to allow an adjustable hold open time delay of 0 to 60 second having internal software to incorporate a self-diagnostic system.

* + - * 1. Microprocessor Control Box:

Besam factory-adjusted configuration, with opening and closing speeds set to comply with ANSI A156.10 requirements. 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.

Selector switch to be interior jamb mounted and shall allow the following functions to be engaged when switch is turned to the appropriate setting. Switch shall be a multi- position keyed cylinder.

“Off”

“Exit Only” One way traffic allowing automatic operation from the interior only.

“Two Way Traffic” allowing automatic operation from exterior and interior.

“Partial Opening” energy saving door position allows door to only open partially upon activation from exterior and interior.

“Hold Open” doors activated and held in the full open position.

* + - 1. ACTIVATION AND SAFETY CONTROL DEVICES
         1. 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.
         2. 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.
     1. The motion detecting microwave portion of the sensor shall be capable of bi-directional and uni-directional sensing capability.
     2. Presence sensor shall remain active at all times.
     3. 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.
     + - 1. Infrared-Scanner Presence Detector:

Self-contained, infrared-scanner units with metal or plastic housing; adjustable to provide detection field sizes and functions required by BHMA A156.10; with relay hold time of not less than 2 to 10 seconds. Detectors shall remain active at all times. Provide housing with black finish.

* + - * 1. Photoelectric-Beams Control System:

In addition to the threshold sensor include a minimum of two (2) doorway holding beams. Photoelectric beams shall be pulsed infrared type, including sensor receiver assemblies. Beams shall be monitored by electrical controls for faults and shall be fail safe.

Pulsed infrared, sender-receiver assembly for recessed mounting and shall prevent doors from closing when beam is interrupted. Beams shall not be active when doors are fully closed.

* + - 1. ELECTRICAL
         1. High-Efficiency DC Motor: Maximum of 3A current draw. Allow for 3 operators to run on one 20 Amp circuit.
         2. Power: Self-detecting line voltage capable control. 120 VAC through 240 VAC, 50/60 Hz, 3A-incoming power with solid earth ground connection for each door system.
         3. Wiring: Separate channel raceway free from moving parts.
         4. 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.
         5. Monitored Battery Backup: Shall be concealed in header and capable of full operation in blackout conditions, including sensor capabilities for minimum of 100 cycles.
         6. Uninterruptible Power Supply (UPS): Provide UPS on designated sliding automatic entrances in accordance with the following:

UPS shall be a fully integrated unit designed to fit within the door header and shall be UL listed for operation with the automatic door system provided herein.

Upon main power interruption to the door:

The UPS shall supply power to the operator, controls, activation, and safety systems of the sliding automatic entrance door.

The UPS shall provide up to 1 hour of normal operation.

UPS unit shall include a low battery shut down feature to safely open or close the door prior to complete battery discharge.

UPS unit shall include an audible battery replacement alarm to indicate that the battery will no longer accept a charge and replacement is required.

* + - * 1. Power Switch: Sliding automatic entrances shall be equipped with a two position, On/Off, illuminated rocker switch to control power to the door.
      1. ACCESS SECURITY SYSTEM
         1. Performance:

The access security system shall detect sliding condition and panic breakout condition of automatic sliding entrance doors when doors are locked and security system is activated.

* + - * 1. Wiring:

System shall be factory wired within the automatic sliding entrance door components; all equipment shall be concealed within door operator housing.

* + - * 1. Operation:

System shall electrically transmit a signal to a remote alarm when sliding condition and panic condition occur. Wiring from automatic sliding entrance doors and the alarm system are specified in Division 26. Provide disconnect switch and wire terminal connection points on terminal block for interface connections to remote alarm.

* + - 1. GENERAL FINISH REQUIREMENTS
         1. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
         2. ALUMINUM FINISHES

Anodized Finish: **[Clear, AA-C22A31] [Dark Bronze, AA-C23A44].**

* + - 1. Provide ANSI required Decals:
         1. “CAUTION AUTOMATIC DOOR” – 7 ½” round
         2. “IN EMERGENCY PUSH TO OPEN” – 16 7/8” x 1 7/8”
         3. “CAUTION STAND CLEAR” – 16 7/8” x 1 7/8”

1. EXECUTION
   * + 1. General:

Comply with automatic entrance door manufacturer's written installation instructions, unless more stringent requirements are indicated. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure nonmovement joints. Seal joints watertight.

* + - * 1. Metal Protection:

Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

* + - 1. EXAMINATION
         1. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, wall and floor construction, and other conditions affecting performance.
         2. Examine roughing-in for electrical source power to verify actual locations of wiring connections.
         3. Proceed only after such discrepancies or conflicts have been resolved.
      2. INSTALLATION
         1. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.
         2. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors.

Set tracks, header assemblies, operating brackets, and guides level and true to location with anchorage for permanent support.

Install components to drain water passing joints and condensation and moisture occurring or migrating within the system to the exterior.

Anchor sliding entrance system securely in place as required for compliance with the blast performance requirements of this project.

Install surface mounted hardware using concealed fasteners to greatest extent possible.

Set headers, carrier assemblies, tracks, operating brackets and guides level and true to location with anchorage for permanent support.

* + - * 1. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.
        2. Glazing: Entrance system to be factory glazed by the manufacturer for compliance with the requirements of this project, published recommendations of glass product manufacturer, and in accordance with the Glass Association of North America (GANA) Glazing Manual.
        3. Sealants: Comply with requirements specified in division 7 Section “Joint Sealants” to provide weather tight installation.

Set sill members in a bed of non-shrink, non-metallic, grout or mortar to completely support sill member from deflecting and bending; remove excess grout and mortar.

Seal perimeter of framing members with sealant.

Seal frame perimeter with sealant to provide weathertight construction, unless otherwise indicated.

* + - * 1. Signage: Apply signage on both sides of each door and sidelite as required by ANSI/BHMA A156.10 and manufacturers installation instructions.
      1. FIELD QUALITY CONTROL
         1. Manufacturers Field Services:

Manufacturer’s representative shall provide technical assistance and guidance for installation of doors.

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 manufacturer.

* + - 1. ADJUSTING
         1. 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.
         2. Readjust door operators and controls after repeated operation of completed installation equivalent to three days' use by normal traffic (100 to 300 cycles). Lubricate hardware, operating equipment, and other moving parts.
      2. CLEANING
         1. Clean adjacent surfaces soiled by door installation.
         2. Clean glass and metal surfaces promptly after installation. Remove excess sealants, compounds, dirt and other substances. Repair damages finish to match original finish.

Comply with requirements in Division 08 Section Glazing for cleaning and maintaining glass.

* + - 1. PROTECTION
         1. Provide final protection and maintain conditions, including limiting construction traffic, that ensure automatic entrance doors are without damage or deterioration at time of final acceptance.
      2. DEMONSTRATION
         1. Engage a factory-authorized representative to train Owner's maintenance personnel to adjust, operate, and maintain safe operation of the door.

Train Government's maintenance personnel on procedures and schedules for starting up and shutting down, troubleshooting, servicing, complying with safety requirements, and maintaining equipment and schedules.

Review data in maintenance manuals.

Schedule training with Contracting Officer with at least seven days' advance notice.

END OF SECTION