SECTION  – aluminum entrance sliding doors

1. General
   1. summary
      1. Furnish labour, materials, and other services to complete the fabrication and installation of the following:
         1. Automatic sliding aluminum framed glass doors and sidelights.
      2. Include all materials and fitments required for the operation of any unit furnished, in the manner, direction and performance shown on the shop drawings and specified herein.
   2. QUALITY ASSURANCE
      1. Contractor executing work of this Section shall have a minimum of five (5) years continuous Canadian experience in the successful fabrication and installation of aluminum entrance sliding doors of type and quality shown and specified. Submit proof of experience upon Consultant's request.
      2. The installation shall be in conformity with laws, by-laws and regulations which govern the design and installation of sliding storefronts and the latest and most current CSA, CGSB and ASTM standards specified.
      3. The work shall be supervised by competent foremen in the shop and during erection. Workers shall be skilled in their respective trades.
   3. SUBMITTALS
      1. Submit submittals in accordance with Section 01 33 00 – Submittal Procedures.
      2. Shop Drawings:
         1. Identify related items shown on shop drawings which are not intended to be supplied as part of the work of this Section.
         2. All dimensions shall be clearly noted and methods of fastening and anchoring detailed. Show accurately and identify all adjacent materials.
         3. Show in full size detail all elements of assembly and construction including all variations of details required for aluminum entrance sliding doors arrangement shown on the drawings.
         4. Design drawings shall bear the stamp of a professional engineer, practicing in the place of the work, and experienced in the design and fabrication methods pertaining to aluminum entrance sliding doors.
      3. Samples:
         1. Submit full size section approximately 305mm (12") long of frame showing finish and profile for Consultant's review.
      4. Maintenance Data and Operating Instructions:
         1. On completion of work of this Section, supply maintenance and operating instructions for incorporation into Operating and Maintenance Manual.
   4. STORAGE, DELIVERY, HANDLING AND PROTECTION
      1. Coordinate deliveries to comply with construction schedule and arrange ahead for strategic off the ground, under cover storage locations. Do not load any areas beyond the design limits.
      2. Adequately protect and crate all components against damage, dirt, disfigurement, and weather.
      3. Exercise extreme care in handling units to prevent damage and scratched surfaces.
      4. Cover and protect the work of other Sections in the area of work from damage. Make good all damage to the satisfaction of the Consultant.
      5. Be responsible for damage to the work until the building is complete and accepted by the Owner. In case of damage, material shall be completely removed and replaced with new.
      6. Provide safe and adequate equipment on the site to execute the work, hoisting, scaffolding, staging, safety protection equipment, tools, plant, and other equipment required for the completion of the work of this Section.
   5. WARRANTY
      1. Manufacturer Warranty: Provide five (5) year manufacturer's warranty on automatic entrance door units and operators effective from the date of Substantial Performance for the Work of the Project covering repair or replacement of components or entire units that fail in materials workmanship; failures will be considered to be but are not limited to, the following:
         1. Structural failures including excessive deflection.
         2. Excessive leakage or air infiltration.
         3. Faulty operation of operators, speed control and hardware.
         4. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
2. Products
   1. Description

SPEC NOTE: Edit the system requirements below to reflect what is needed on the Project. Review Door Schedule to coordinate with this Section.

* + 1. System Requirements:
       1. Automatic Door Equipment: Electro-mechanically operated with motion detector control device.
       2. Type of Door Operations: Fully automatic.
       3. Door: Single slide one sliding leaves and one operable panel.
       4. Sidelites: Full Breakout.
  1. AUTOMATIC SLIDING DOOR SYSTEM

SPEC NOTE: This Section is set up for Narrow Stile Door Panels, as indicated below. Revise the Section to reflect the Design, as indicated in the Door Schedule.

* + 1. Sliding Aluminum Doors: Narrow stile door panels with intermediate rails and 4” bottom rails with security glass stops and tempered glass:
       1. Aluminum Extrusions: Alloy and temper recommended by producer or finisher for type of use and finish indicated, and with not less than strength and durability properties specified in ASTM B221 for Aluminum Association designation 6063‑T5 or T6.
       2. Aluminum Sheets: Alloy and temper recommended by producer or finisher for type of use and finish indicated, and with not less than strength and durability properties specified in ASTM B209 for Aluminum Association designations 1100‑H14 or 5005‑H32 or H34.
       3. Fasteners: Aluminum, non‑magnetic stainless steel, or other non‑corrosive metal fasteners compatible with aluminum components, hardware, anchors and other items being fastened using Phillips flat head screws with finish matching item being fastened for exposed hardware.
       4. Reinforcement and Brackets: High strength aluminum meeting requirements of ASTM B209.
       5. Galvanizing Touch-Up: Zinc rich, organic, ready mixed primer meeting requirements of CAN/CGSB 1.181
       6. Isolation Coating: Acid and alkali resistant bituminous paint
       7. Weather Stripping:
          1. Compression Weather Stripping: Compressible replaceable type; moulded neoprene gaskets to ASTM D2000.
          2. Sliding Weather Stripping: Replaceable nylon woven pile, with nylon fabric or aluminum strip backing to AAMA 701.2.
       8. Selector switch located on the interior side of the unit to allow door(s) to open at full or reduced width according to weather and traffic conditions.
       9. Glass and Glazing Materials: In accordance with Section 08 80 00 for supply of glass and glazing materials.
       10. Door Hardware: Coordinate with Section 08 71 00 – Door Hardware for supply of finish hardware.

SPEC NOTE: Edit the Basis of Design Product if different from that identified below.

* + 1. Basis of Design Product: ESA300 Automatic Sliding Door by DORMA USA Inc.
  1. Automatic operators
     1. Operator Description: Concealed, overhead operator for accommodating door action; fully adjustable without removal of doors; provide adjustable speed control for checking opening and closing cycles, and length of time door remains open and as follows:
        1. On‑Off‑Hold Open: Keyed switch at inside head of sliding doors, mounted at a concealed location to prevent tampering by public; key matching hospital standard system specified in Section 08 71 00 – Door Hardware.
        2. Dual Stage Opening: Doors to open half for single traffic and full for larger groups or materials.
        3. Emergency Stop: Equip operators with back pressure sensing device that will cause door to stop and permit manual operation should the door encounter an obstruction.
        4. Provide connections for power and control wiring.
        5. Provide for manual operation when power is off.
        6. Equip operators with current characteristics to suit building's electrical service.
     2. Operator Power Units:

SPEC NOTE: Edit the following to match the sliding door identified above in Part 2.

* + - 1. Power Requirements: 120 VAC, 60 Hz.
      2. Operation: Power open; power close operation.
      3. Electro-Mechanical Type: Linear driven.
    1. Door Operator Control Systems”
       1. Provide controls with detection patterns and sensitivity, for both operation and safety, of sizes and quantities required to suit project; but not smaller than requirements of CAN/CGSB‑69.26.
       2. Motion Detecting Control System:
          1. Motion Detector: Manufacturer's standard, self contained, radio frequency microwave two directional sensing device to activate door operator, mounted above opening on each side of door opening; finish housing to match doors.
          2. Presence Sensor: Manufacturer's standard, self contained, ultrasonic scanner, mounted above door opening, on each side, to prevent door from closing until door is clear of traffic, and to recycle sliding doors in openings interrupted by stalled or slow-moving traffic; finish housing to match doors.
  1. Accessories
     1. Sliding Door Sills: Aluminum, mill finish, size and profile as indicated; provide threshold across exterior door opening and inverted roller guide track system at sidelights.
     2. Door Signs:
        1. Sign Material: Self adhesive type for mounting on glass.
        2. Provide arrow sign on approach side of power operated swinging doors; green circle surrounding black arrow on white background, to CAN/CGSB‑69.26.
        3. Provide "AUTOMATIC SLIDING DOOR" sign on each side of power operated sliding door leaves; red horizontal background strip with minimum 25 mm high contrasting letters, each end of horizontal strip with arrow pointing toward nearest door stile. Locate sign centrally on door leaf 900 mm to 1.5 mm above floor.
  2. Finishes
     1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
     2. Protect finish with strippable protective film.

SPEC NOTE: Select one of the following finish options below. Delete what is not required.

* + 1. Clear Anodized Finish:
       1. Class II Finish: Architectural Class II, clear coating 0.010 mm or thicker in accordance with AAMA 611.
    2. **[Light Bronze] [Medium Bronze] [Dark Bronze] [Black]** Coloured Anodized Finish:
       1. Class II Finish: Architectural Class II, integrally coloured or electrolytically deposited colour coating 0.010 mm or thicker in accordance with AAMA 611.

SPEC NOTE: Select 2 coat for standard exterior projects; 3 coat for high end finish, corrosive exterior environments; acrylic enamel for interior projects.

* + 1. High Performance Organic Finish:
       1. Two (2) Coat PVDF or FEVE Coating:
          1. Manufacturer's standard 2 coat, thermo-cured system consisting of specially formulated inhibitive primer and colour topcoat and apply coating to exposed metal surfaces in accordance with AAMA 2605 and with coating and resin manufacturers' written instructions.
          2. Colour: [As indicated in Section 09 06 05 Product and Finish Schedule.][As selected by Consultant from manufacturer's full product range.]
          3. Basis of Design Materials: PPG Duranar.
    2. Acrylic Enamel Finish:
       1. One (1) Coat Acrylic Extrusion Coating:
          1. AA‑C12 Chemical Finish, cleaned with inhibited chemicals; C40 Chemical Finish, conversion coating; Rx Acrylic Coating, manufacturer’s standard single coat factory spray applied acrylic coating; prepare, pre‑treat and apply coating to exposed metal surfaces to 0.020 mm or thicker in accordance with AAMA 2603 and with coating manufacturer’s written instructions.
          2. Colour: **[As indicated in Section 09 06 05 Product and Finish Schedule.] [As selected by Consultant from manufacturer's full product range.]**
          3. Basis of Design Materials: PPG Duracron.
    3. Steel (Concealed):
       1. Hot-dip galvanized in accordance with CAN/CSA-G164, with minimum coating of 2 oz./sq.ft., or zinc rich paint.
    4. Isolate where necessary to prevent electrolysis due to dissimilar metal-to-metal contact or metal-to-masonry and concrete contact. Use bituminous paint, butyl tape or other approved divorcing material.

1. Execution
   1. INSPECTION
      1. Verify that the automatic sliding door system installation will not disrupt other trades. Verify that the installation area is dry, clean and free of foreign matter. Check as-built conditions and verify the manufacturer's automatic sliding entrance system details for accuracy to fit the wall assembly prior to fabrication.
      2. Report in writing to the Contractor any detrimental conditions to the proper functioning of the automatic sliding door system. Installation shall proceed once the unsatisfactory conditions have been corrected in accordance with the manufacturer's recommendations.
   2. INSTALLATION OF AUTOMATIC SLIDING ENTRANCE SYSTEM:
      1. Perform work in accordance with CAN/CGSB‑69.26; install doors and frames in accordance with shop drawings and manufacturer's instructions; attach and seal air vapour barrier materials to perimeter framing.
      2. Set work plumb, square, level, free from warp, twist, and superimposed loads; securely anchor work in required position; do not restrict thermal movement.
      3. Brace frames rigidly for building‑in; provide temporary horizontal spreaders at third points of door openings to maintain frame width; vertically support at centre, heads of openings over 1220 mm wide; remove temporary bracing after framing is set.
      4. Apply isolation coating to separate aluminum and primed or galvanized steel surfaces at points of contact with cementitious materials.
      5. Pack fibrous insulation in shim spaces at perimeter of assembly and void spaces between members to maintain continuity of thermal barrier.
      6. Maintain clearances between head members and structure to ensure that structural loads are not transmitted to frames.
      7. Install hardware using templates provided by Section 08 71 00 – Door Hardware.
      8. Install door operator system in accordance with manufacturer's instructions, including controls, and control wiring.
      9. Set tracks, header assemblies, operating brackets, rails, and guides level and true to location, with adequate anchorage for permanent support.
      10. Install glass in accordance with Section 08 80 00 – Glazing.
      11. Sealant Application: Install perimeter sealant and back‑up materials, to provide weather tight seal at outside and air, vapour seal at inside in accordance with requirements of Section 07 92 00 – Joint Sealants.
   3. CLOSEOUT ACTIVITIES
      1. Adjusting: After repeated operation of completed installation equivalent to three days of use by normal traffic (100 to 300 cycles), readjust door operators and controls for optimum, smooth operating condition and safety and for weather tight closure:
         1. Lubricate hardware, operating equipment, and other moving parts.
         2. Include for demonstrating door features and functions during Commissioning, power failure, and fire alarm testing.
         3. Include for all service calls for adjustments or corrections required during 1-year warranty from building turnover to Owner.
      2. Cleaning: Clean glass and aluminum surfaces promptly after installation; exercise care to avoid damage to coatings:
         1. Remove protective material from prefinished aluminum surfaces.
         2. Wash exposed surfaces with mild solution of detergent and warm water, using soft, clean wiping cloths. Remove dirt from corners. Wipe surfaces clean.
         3. Remove excess sealant by moderate use of solvent, of type acceptable to sealant manufacturer.

END OF SECTION