SECTION 08343 – ICU / CCU ENTRANCE DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes swinging-sliding manual, ICU/CCU entrance door assemblies.

B. Related Sections include the following:
   1. Division 8 Section "Sliding Automatic Entrance Doors" for entrance doors packaged with automatic door operators and controls.
   2. Division 8 Section "Glazing" for glazing requirements for ICU/CCU entrance doors.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for ICU/CCU entrance doors.

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

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

E. Product Certificates: For each type of emergency breakaway entrance door, signed by product manufacturer.

F. Qualification Data: For Installer and manufacturer.

G. Warranties: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative of ICU/CCU entrance door manufacturer who is trained and approved for installation and maintenance of units required for this Project.

   1. Maintenance Proximity: Not more than two (2) hours' normal travel time from Installer's place of business to Project site.

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

C. Source Limitations: Obtain ICU/CCU entrance doors through one source from a single manufacturer.

D. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of ICU/CCU entrance doors and are based on the specific system indicated.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

E. Welding: Qualify procedures and personnel according to AWS D1.2, "Structural Welding Code--Aluminum."

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify openings to receive ICU/CCU entrance door assemblies by field measurements before fabrication and indicate measurements on Shop Drawings.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish opening dimensions and proceed with fabricating ICU/CCU entrance door assemblies without field measurements. Coordinate construction to ensure that actual opening dimensions correspond to established dimensions.

1.6 COORDINATION

A. Templates: Obtain and distribute, to the parties involved, templates for doors, frames, and other work specified to be factory prepared for installing ICU/CCU entrance doors. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing ICU/CCU entrance doors to comply with indicated requirements.

1.7 WARRANTY

A. Special Assembly Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of ICU/CCU entrance door assemblies that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Faulty operation of operators and hardware.
c. Deterioration of metals, metal finishes, and other materials beyond normal use.

2. Warranty Period: Two (2) years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period.

1. Warranty Period: Twenty (20) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Besam Automated Entrance Systems, Inc.
2. Dor-O-Matic, Inc.; an Ingersoll-Rand Company.
3. EFCO Corporation.
4. Gildor, Inc.
5. Horton Automatics; Div. of Overhead Door Corporation.
6. KM Systems, Inc.

B. Basis-of-Design Products: The design for ICU/CCU sliding entrance doors is based on Profiler ICU Type 310 (trackless), Model Numbers S0-SX, 0-SX-SO, and SO-SX-O as manufactured by Horton Automatics, Division of Overhead Door Corporation.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
2. Sheet and Plate: ASTM B 209 (ASTM B 209M).
3. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.

B. Sealants and Joint Fillers: Refer to Division 7 Section "Joint Sealants."

C. Nonmetallic, Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout complying with ASTM C 1107; of consistency suitable for application.

D. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos; formulated for 30-mil (0.76-mm) thickness per coat.

2.3 ICU/CCU ENTRANCE DOOR ASSEMBLIES

A. General: Provide manufacturer's standard ICU/CCU entrance door assemblies including doors, sidelites, framing, headers, carrier assemblies, roller tracks, and accessories required for a complete installation.

1. Opening-Force Requirement: Not more than 5 lbf (22 N) to stop door movement.

B. Sliding ICU/CCU Entrance Door:

1. Configuration #1: Single-sliding door, with one operable leaf and sidelite.

a. Emergency Breakaway Capability: Sliding leaf and sidelite.

2. Configuration #2: Single sliding doors with one operable leaf and two sidelites.
a. Emergency Breakaway Capability: sliding leafs and sidelite.

3. Mounting: Between jambs.

4. Floor Track Configuration: Trackless across door opening and at sidelites.

5. Finish: Finish framing, door(s), sidelite(s), and header with high-performance organic finish (2-coat fluoropolymer).

a. Color: As selected by Architect from full range of industry colors and color densities.

2.4 COMPONENTS

A. Framing Members: Manufacturer's standard extruded aluminum, minimum 0.125 inch thick and reinforced as required to support imposed loads.

1. Nominal Size: 1-3/4 by 4 inches.
2. Extruded Glazing Stops and Applied Trim: Minimum 0.062-inch wall thickness.

B. Stile and Rail Doors: Manufacturer's standard 1-3/4-inch- thick glazed doors with minimum 0.125-inch- thick, extruded-aluminum tubular stile and rail members. Mechanically fasten corners with reinforcing brackets that are welded, or incorporate concealed tie-rods that span full length of top and bottom rails.

1. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.
2. Stile Design: Narrow stile; 2-1/8-inch (55-mm) nominal width.
3. Rail Design: 3-1/2-inch (90-mm) nominal height.
4. Muntin Bars: Horizontal tubular rail member for each door; match stile design.

C. Sidelites: Manufacturer's standard 1-3/4-inch- (45-mm-) deep sidelites with minimum 0.125-inch- (3.2-mm-) thick, extruded-aluminum tubular stile and rail members matching door design.

1. Glazing Stops and Gaskets: Same materials and design as for stile and rail door.
2. Muntin Bars: Horizontal tubular rail members for each sidelite; match stile design.

D. Glazing: As specified in Division 8 Section "Glazing", ¼" tempered glass.

E. Headers: Fabricated from minimum 0.125-inch- thick, extruded aluminum and extending full width of ICU/CCU entrance door units to conceal carrier assemblies and roller tracks. Provide hinged or removable access panels for service and adjustment. Secure panels to prevent unauthorized access.

1. Mounting: Surface mounted.
2. Capacity: Capable of supporting doors up to 100 lb (45 kg) per leaf over spans up to 14 feet (4.3 m) without intermediate supports.

a. Provide sag rods for spans exceeding 14 feet.

F. Carrier Assemblies and Overhead Roller Tracks: Manufacturer's standard carrier assembly that allows vertical adjustment; consisting of nylon- or delrin-covered ball-bearing-center steel wheels operating on a continuous roller track, or ball-bearing-center steel wheels operating on a nylon- or delrin-covered continuous roller track. Support doors from carrier assembly by cantilever and pivot assembly.

1. Rollers: Minimum two ball-bearing roller wheels and two antirise rollers for each active leaf.

G. Concealed Bottom Rollers: Manufacturer's standard.

H. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

I. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

2.5 HARDWARE

A. General: Provide units in sizes and types recommended by ICU/CCU entrance door and hardware manufacturers for entrances and uses indicated. Finish exposed parts to match door finish.

B. Emergency Breakaway Hardware: Provide release hardware that allows panel to swing out in direction of egress to full 90 degrees from sliding mode. Maximum force to open panel shall be 50 lbf (222 N).

1. Release Position: Doors fully open.

C. Limit Arm: Provide limit arm to control doors in the swing mode.

D. Pulls: Manufacturer's standard recessed units on both sides of each operable door.

E. Manual Flush Bolts: BHMA A156.16, edge-mortised, lever-extension-type flush bolts; located at bottom of each swing-out sidelite.

F. Weather Stripping: Manufacturer's standard replaceable components.

1. Sliding Type: AAMA 701, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

G. Weather Sweeps: Manufacturer's standard, nylon brush sweep mounted to underside of door bottom.

2.6 FABRICATION

A. General: Factory fabricate ICU/CCU entrance door assembly components to designs, sizes, and thicknesses indicated and to comply with indicated standards.

1. Form aluminum shapes before finishing.
2. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
3. Use concealed fasteners to greatest extent possible. Where exposed fasteners are required, use countersunk Phillips flat-head machine screws, finished to match framing.

    a. Where fasteners are subject to loosening or turning out from structural movements or vibration, use self-locking devices.
    b. Reinforce members as required to receive fastener threads.

B. Framing: Provide ICU/CCU entrance doors as prefabricated assemblies. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to Project site.

1. Fabricate tubular and channel frame assemblies with manufacturer's standard welded or mechanical joints. Provide subframes and reinforcement as required for a complete system to support required loads.
2. Perform fabrication operations in manner that prevents damage to exposed finish surfaces.
3. Form profiles that are straight and free of defects or deformations.
4. Prepare components to receive concealed fasteners and anchor and connection devices.
5. Fabricate components with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
6. Provide anchorage and alignment brackets for concealed support of assembly from the building structure.

C. Doors: Factory fabricated and assembled in profiles indicated. Reinforce as required to support imposed loads and for installing hardware.

D. Glazing: Fabricate framing with minimum glazing edge clearances for thickness and type of glazing indicated, according to GANA's "Glazing Manual."

E. Hardware: Factory installed hardware to the greatest extent possible; remove only as required for final finishing operation and for delivery to and installation at Project site. Cut, drill, and tap for factory-installed hardware before applying finishes.

1. Provide sliding weather stripping, mortised into door, at perimeter of sliding doors and breakaway sidelites.

2.7 ALUMINUM FINISHES

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

B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

C. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 and with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of ICU/CCU entrance doors.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

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

1. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

B. Entrances: Install ICU/CCU entrance doors 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.
3. Level recesses for recessed floor tracks using nonshrink grout.

C. Glazing: Install glazing as specified in Division 8 Section "Glazing."

D. Sealants: Comply with requirements in Division 7 Section "Joint Sealants" for installing sealants, fillers, and gaskets.

1. Set framing members, floor tracks, and flashings in full sealant bed.
2. Seal perimeter of framing members with sealant.

3.3 ADJUSTING

A. Adjust door hardware for smooth and safe operation.

B. Lubricate operating hardware and other moving parts.

C. Test grounding system for compliance with requirements of authorities having jurisdiction.

3.4 CLEANING AND PROTECTION

A. 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.

1. Comply with requirements in Division 8 Section "Glazing" for cleaning and maintaining glass.

END OF SECTION 08343