SECTION 08 42 43
INTENSIVE CARE UNIT/CRITICAL CARE UNIT ENTRANCES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Interior, single slide manual sliding ICU/CCU entrances without track.

B. Where scheduled, entrances shall be rated as an effective barrier limiting the passage of smoke.

C. Where scheduled, entrances shall be designed and tested for use in airborne infection isolation (A.I.I.) rooms.

1.2 RELATED REQUIREMENTS

A. Section 01 25 00 -Substitution Procedure: Administrative and procedural requirements for requesting approval of substitution.

B. Section 01 30 00 – Administrative Requirements: Requirements for submittal procedures, project meetings, progress schedules, and documentation, reports, and coordination.

C. Section 01 60 00 – Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

D. Section 07 90 00 - Joint Protection: Caulking to the extent not specified in this section.

E. Section 08 40 00 - Aluminum-Framed Entrances, Storefronts and Curtain Walls: Entrances furnished and installed separately.

F. Section 08 71 00 - Door Hardware: Hardware to the extent not specified in this Section.

G. Division 26 00 00 – Electrical: Electrical connections including conduit and wiring for grounding of manual ICU/CCU entrances.

1.3 REFERENCE STANDARDS

A. 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.

Specifier Note: Retain paragraphs below based on finishes required on the project.

B. American Architectural Manufacturers Association (AAMA):
   1. **[AAMA 606.1 – Integral Color Anodic Finishes for Architectural Aluminum.]**
   2. **[AAMA 607.1 - Clear Anodic Finishes for Architectural Aluminum.]**
   3. **[AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.]**
   4. **[AAMA 2605 – Superior Performing Organic Coatings on Aluminum Extrusions and Panels.]**
   5. AAMA 701 Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals.

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

D. American National Standards Institute (ANSI):
1. ANSI A117.1: Accessible and Usable Buildings and Facilities.
2. ANSI Z97.1: Standard for Safety Glazing Materials Used In Buildings - Safety Performance Specifications And Methods Of Test.

E. American Society for Testing and Materials (ASTM):
1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

F. Consumer Product Safety Commission (CPSC):
1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.

G. Facilities Guidelines Institute: Guidelines for Design and Construction of Hospitals
1. 2.1-2.4.2 Airborne Infection Isolation (A.I.I.) Room.

H. International Building Code (IBC).

I. International Organization for Standardization (ISO):
1. ISO 9001 - Quality Management Systems.
2. ISO 14025 – Environmental Labels and Declarations -- Type III Environmental Declarations -- Principles and Procedures.
3. ISO14040 – Environmental Management -- Life Cycle Assessment -- Principles and Framework.
4. ISO 14044 – Environmental Management -- Life Cycle Assessment -- Requirements and Guidelines.
5. ISO 21930 – Sustainability in Buildings and Civil Engineering Works -- Core Rules For Environmental Product Declarations Of Construction Products And Services.

J. National Association of Architectural Metal Manufacturers (NAAMM):
1. Metal Finishes Manual for Architectural and Metal Products.

K. National Fire Protection Association (NFPA):
1. NFPA 105 – Standard for the Installation of Smoke Door Assemblies.

L. Underwriters Laboratories (UL):
1. UL 1784 – Air Leakage Tests for Door Assemblies.

1.4 COORDINATION

A. Templates: Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing ICU/CCU entrances to comply with indicated requirements.

B. Electrical System Roughing-in: Coordinate layout and installation of ICU/CCU entrances with connections to facility grounding system.

1.5 SUBMITTALS

A. General: Submit the following in accordance with Conditions of the Contract and Section 01 30 00 – Administrative Requirements, submittal procedures.

B. Action Submittals:

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

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

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain ICU/CCU entrances through one source from a single manufacturer.

B. Qualifications:
1. Installer Qualifications: Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project.
2. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility compliant with ISO 9001.
a. Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service.

C. Certifications:
1. ICU/CCU entrance systems shall be certified by the manufacturer to meet performance design criteria in accordance with:
a. UL 1784
b. NFPA 105

1.7 FIELD CONDITIONS

A. Field Measurements: General Contractor shall verify openings to receive ICU/CCU entrances 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 Contract shall advise of any inadequate conditions or equipment.

1.8 WARRANTY

A. ICU/CCU entrances shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.

B. During the warranty period the Owner shall engage a factory-trained technician to 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.

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

2.1 ICU/CCU ENTRANCES

A. Manufacturer: Stanley Access Technologies (www.stanleyaccess.com); ProCare™ 8300 Series sliding ICU/CCU entrances.

1. Contact: Stanley Access Technologies, Nel Pena; Phone: 305-764-2604, Email: suegar.pena@allegion.com.

B. Substitutions: Refer to Section 01 25 00 – Substitution Procedure.

C. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of entrance door assemblies and are based on the specific system indicated. Refer to Section 01 60 00 – Product Requirements: Product Options.

2.2 ICU/CCU ENTRANCE ASSEMBLIES

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

B. Single Slide ICU/CCU Entrances:
1. Configuration: One sliding panel and one full sidelight.
2. Traffic Pattern: Two-way.
3. Utility Breakaway Capability: Sliding panel and sidelight, from fully open position.
4. Mounting: Between jambs.
5. Track: None, trackless.

2.3 PERFORMANCE REQUIREMENTS

A. General: Provide ICU/CCU entrances capable of withstanding structural loads and thermal movements based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Operating Range: Minus 30 deg F (Minus 34 deg C) to 130 deg F (54 deg C).

C. Smoke and Draft Control: Provide smoke and draft control system on specified doors. Smoke and draft control system shall provide an effective barrier for limiting the passage of smoke through ICU/CCU door assemblies. Smoke and draft control system shall comply with the following:
1. Air Leakage Rates: The maximum air leakage rate for ICU/CCU entrances shall be as follows:
   a. Tested without artificial bottom seal, at 0.10 in water column (25 Pa), leakage shall be less than 2.5 $ft^3/min/ft^2$ (0.8 $m^3/min/m^2$) of framed opening at ambient temperature; and, less than 1.0 $ft^3/min/ft^2$ (0.3 $m^3/min/m^2$) of framed opening at elevated temperature.
   b. Tested with artificial bottom seal, at 0.30 in water column (75 Pa), leakage shall be less than 2.0 $ft^3/min/ft^2$ (0.6 $m^3/min/m^2$) of framed opening at ambient temperature; and, less than 1.5 $ft^3/min/ft^2$ (0.5 $m^3/min/m^2$) of framed opening at elevated temperature.
2. Door shall be tested in accordance UL 1784.
3. Installation shall be in accordance with NFPA 105.

2.4 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
1. Headers, stiles, rails, and frames 6063-T6
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
3. Sheet and Plate: ASTM B 209.

B. Sealants and Joint Fillers: Performed under Section 07 90 00 - Joint Protection.

2.5 COMPONENTS

A. Framing Members: Manufacturer's standard extruded aluminum reinforced as required to support imposed loads.
   1. Nominal size shall be 7/8 inch by 4 1/2 inch (22 mm by 115 mm).

B. Stile and Rail Doors and Sidelights: Manufacturer's standard 1 ¾ inch (45 mm) thick glazed doors with extruded-aluminum tubular stile and rail members. Incorporate concealed tie-rods that span full length of top and bottom rails.
   1. Glazing Stops and Gaskets: Snap-on, extruded-security aluminum stops and preformed gaskets.
   2. Stile Design: Narrow stile; up to 2 1/8 inch (54 mm) nominal width.
   3. Bottom Rail Design: Minimum 10 inch (254 mm) nominal height.
   4. Muntin Bars: Horizontal tubular rail member for each door; 2 inch (51 mm) nominal height.

C. Privacy Blind Glazing: Provide privacy blind glazing for ICU/CCU entrances as follows:
   1. Glass: Safety glass complying with ANSI Z97.1 and CPSC 16 CFR 1201 for Category II materials.
   2. Upper Lites: Privacy blinds glazing units
      a. Privacy blinds glazing units shall be a sealed insulated glass system incorporating mechanically adjustable integral blinds.
      b. Blinds shall be adjustable by recessed thumb wheel.
      c. Privacy blind glazing units shall be 1 5/16 inch (33 mm) thick with, clear, fully tempered, glass in all panels.
      d. Provide glazing manufacturer’s universal glass stop.
      e. Units shall be factory assembled and shall be equal to or better than UniCell, Vision Control Mini.
   3. Lower Lites: 1/4 inch (6 mm) tempered glazing, frosted, opaque.

D. Headers: Fabricated from extruded aluminum and extending full width of ICU/CCU entrance units to conceal**,** carrier assemblies, and roller tracks. Provide hinged or removable access panels for service and adjustment of door carrier assemblies. Secure panels to prevent unauthorized access. Mounting shall be concealed, with one side of header flush with framing.

E. Carrier Assemblies and Overhead Roller Tracks: Manufacturer's standard carrier assembly that allows vertical adjustment of at least 1/8 inch (3 mm); consisting of urethane with precision steel lubricated ball-bearing wheels, operating on a continuous roller track. Support panels from carrier assembly by load wheels and anti-rise mechanism with factory adjusted cantilever and pivot assembly. Minimum two ball-bearing load wheels for each active leaf. Minimum load wheel diameter shall be 2 1/2 inch (64 mm).

F. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.

2.6 HARDWARE

A. General: Provide units in sizes and types recommended by ICU/CCU entrance and hardware manufacturers for entrances and uses indicated.

B. Breakaway Feature: Provide release hardware that allows sliding panel and sidelight to swing out in direction of egress to full 90 degrees, only from the fully open position.
   1. Latching system shall allow both panels to swing out after disengaging semi-automatic flush bolt from a single release point.

2. When returning panels from breakaway position, panels shall self-latch.

C. Positive Latch: Manufacturer's standard non-keyed, spring loaded, latch and strike that can secure sliding door panels to adjacent panels or jambs. Strike shall mount flush to surface of framing. Latch shall engage by closing action of door.
1. Dead latch hook bolt shall be concealed to prevent snagging.
2. Handle shall be circumferential design without exposed edges or open ends.
3. Handle action shall be linear, unlatching in the direction of slide.

D. Deadlocks: None.

E. Self-Closing: Provide manufacturer’s standard mechanical self-closing components requiring no electrical power; fully concealed within header. System shall include the following components:
1. Adjustable, reel type, spring closer.
2. Adjustable hydraulic damper to check sliding panel when self-closing.
3. Provide manufacturer’s standard electromagnetic hold open that will release sliding panels to self-close on activation of fire alarm system.

F. Smoke Seal Components: Provide manufacturer’s standard smoke and draft control components as required for compliance with UL1784. Components included but are not limited to high temperature stile, top rail, and hanger seals.

G. Isolation Seals: Provide manufacturer’s standard bottom seals, sweeps, as required for use in pressurized Airborne Infection Isolation (AII) rooms.

2.7 FABRICATION

A. General: Factory fabricate ICU/CCU entrance components to designs, sizes, and thickness indicated and to comply with indicated standards.
1. Form aluminum shapes before finishing.
2. Use concealed fasteners to greatest extent possible.
a. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
b. Reinforce members as required to receive fastener threads.

B. Framing: Provide ICU/CCU entrances as prefabricated assemblies.
1. Fabricate tubular and channel frame assemblies with manufacturer's standard mechanical or welded joints. Provide sub-frames 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 sharp, 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.

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.

E. Hardware: Factory install hardware to the greatest extent possible; remove only as required for final finishing operation and for delivery to and installation at Project site.

2.8 ALUMINUM FINISHES

A. General: Comply with NAAMM Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designing finishes. Finish designations prefixed by AA comply with system established by Aluminum Association for designing finishes.

Specifier Note: Retain appropriate paragraphs below based on finish requirements for project.

B. [Class II, Clear Anodic Finish: AA-M12C22A31 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.40 mils minimum complying with AAMA 611-98, and the following:
1. AAMA 607.1
2. Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.]

C. [Class I, Color Anodic Finish: AA-M12C22A42/A44 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.70 mils minimum complying with AAMA 611-98, and the following:
1. Color: Champagne | Light Bronze | Medium Bronze | Dark Bronze | Extra Dark Bronze | Black.
2. AAMA 606.1
3. Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.]

D. [Superior-Performance Organic Finish: AA-C12C40R1x Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating.
1. Fluoropolymer Two-Coat System: Manufacturer's standard two-coat, thermocured system, non-mica, non-metallic, non-bright white, consisting of inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight.
2. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturer's written instructions.
3. Minimum dry film thickness shall be 1.2 mils.
4. Color and Gloss: As selected by Architect from manufacturer's standard colors and gloss for paint system specified.]

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine conditions for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of ICU/CCU entrances. 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 joints free of burrs and distortion. Rigidly secure non-movement joints.

B. Entrances: Install ICU/CCU 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. Electrical: Connect ICU/CCU entrances to building grounding system as specified in Division 26 00 00 – Electrical.

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

E. Sealants: Comply with requirements specified in Section 07 90 00 - Joint Protection.

3.3 FIELD QUALITY CONTROL

A. Testing Services: Factory Trained Installer shall test and inspect each ICU/CCU entrance to determine compliance of installed systems with applicable standards.

3.4 REPAIR

A. Repair damaged finish to match original finish.

3.5 ADJUSTING

A. Adjust manual door hardware for smooth and safe operation, and for tight closure.

3.6 CLEANING

A. Clean glass and aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Comply with requirements in Section 08 80 00 - Glazing, for cleaning and maintaining glass.

END OF SECTION 08 42 43