

SECTION 08 42 43

INTENSIVE CARE UNIT / CRITICAL CARE UNIT (ICU/CCU) ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Manually operated intensive care unit/critical care unit (ICU/CCU) entrances.
 - 2. Trauma 109.
- B. Related Sections:
 - 1. Section 00 21 50 "Preferred Vendors and Manufacturers."
 - 2. Section 08 42 29 "Swinging Automatic Entrances" for entrances packaged with swinging automatic door operators and controls.
 - 3. Section 08 42 30 "Swinging Automatic Entrances (Interiors)" for entrances packaged with sliding automatic door operators and controls.
 - 4. Section 08 42 31 "Swinging Automatic Entrances (Exterior)" for entrances packaged with sliding automatic door operators and controls.
 - 5. Section 08 80 31 "Glazing".

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include finishes for ICU/CCU entrances.
- B. Shop Drawings: For ICU/CCU entrances. Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Samples for Verification: For each type of exposed finish required, provide two 4-by-4-inch (100-by-100-mm) samples.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Warranties: Sample of special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain ICU/CCU entrances from single source from single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings to receive ICU/CCU entrances by field measurements before fabrication.

1.6 COORDINATION

- A. Coordinate sizes and locations of recesses in concrete floors for recessed sliding tracks. Concrete, reinforcement, and formwork requirements are specified elsewhere.
- B. Templates: Distribute for doors, frames, and other work specified to be factory prepared for installing ICU/CCU entrances.

1.7 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of ICU/CCU entrances 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 hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal use.
 - 2. Warranty Period: Two years from date of Substantial Completion.
- B. 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: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 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).
- B. Sealants and Joint Fillers: As specified in Section 07 92 00 "Joint Sealants."
- C. Shrinkage-Resistant Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout complying with ASTM C 1107; of consistency suitable for application.
- D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.2 PERFORMANCE REQUIREMENTS

- A. Opening-Force Requirement, Sliding: Not more than 5 lbf (22.2 N) to fully open door.
- B. Air Leakage: Entrance assemblies for assemblies for smoke control shall be listed and labeled for smoke and draft control by qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and having maximum air leakage according to NFPA 105 unless otherwise indicated.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 MANUAL ICU/CCU ENTRANCE ASSEMBLIES

- A. General: Provide manufacturer's smoke tight ICU/CCU entrances including door leaves, framing, headers, carrier assemblies, roller tracks, and accessories required for a complete installation.
- B. Smoke rated ICU/CCU doors are to be certified to UL 1748 – Air Leakage Test of Door Assemblies.
- C. Manufacturers: Subject to compliance with requirements, provide products by manufacturers listed in Document 00 21 50 - Owner's Preferred Vendor List. No Substitutions Permitted.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Besam Entrance Solutions; an ASSA ABLOY Group company. VersaMax 2.0 Telescopic ICU/CCU Sliding Door Package.
 - b. Stanley Access Technologies; Division of The Stanley Works. Series 7000 Intensive Care Trackless Door Package.
- D. Breakaway Hardware: Release hardware that allows indicated panels to swing out in direction of egress to full 90 degrees from closed door position.
 - 1. Maximum Force to Open Panel: 50 lbf (222 N).
 - 2. Release Position: Sliding door fully open.
- E. Sliding ICU/CCU Entrance [Trauma Room 1-1423]:
 - 1. Configuration: Single-telescoping three-panel door, with two operable leaves and one sidelite; with breakaway capability for sliding leaves and sidelite.
 - 2. Mounting: Between jambs.
 - 3. Latching hardware shall be provided as indicated.
 - a. Positive Latch: Mortise type self-latching hookbolt, BHMA A156.5, Grade 1, with lever handles on each side.
 - 1) Lever Style: End of lever to have a return towards door face.
 - 4. Self-closing device shall be provided as indicated.
 - a. A non-electrified, adjustable speed, rack and pinion mechanism, which will close door to a positive latched position.
 - 5. Floor Track Configuration: No track across sliding-door opening and at sidelites (trackless).
 - 6. Door Stile Design: Medium stile; 3-1/2-inch (90-mm) nominal width.
 - 7. Rail Design: 3-1/2-inch (90-mm) nominal height.
 - 8. Muntin Bars: On doors and sidelites.
 - 9. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets for glazing indicated, wet glazing not allowed.
 - 10. Glazing: Clear tempered.
 - 11. Closer: Fully concealed spring closer.
 - 12. Finish: Finish framing, door(s), sidelite(s), and header with Class II, clear anodic finish.

2.4 COMPONENTS

- A. Framing and Transom Members: Manufacturer's standard extruded aluminum, minimum 0.125 inch (3.2 mm) thick and reinforced as required to support imposed loads.
 - 1. Nominal Size: 1-3/4 by 4-1/2 inches (45 by 115 mm).
 - 2. Extruded Glazing Stops and Applied Trim: Minimum 0.062-inch (1.6-mm) wall thickness.
- B. Stile and Rail Doors: Manufacturer's standard 1-3/4-inch- (45-mm-) thick glazed doors with minimum 0.125-inch- (3.2-mm-) 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 for glazing indicated.
 2. 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 and finish.
1. Glazing Stops and Gaskets: Same materials and design as for stile and rail door.
 2. Muntin Bars: Horizontal tubular rail member for each sidelite; match stile design.
- D. Glazing: As specified in Section 08 80 00 "Glazing."
- E. Headers: Fabricated from minimum 0.125-inch- (3.2-mm-) thick 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. Secure panels to prevent unauthorized access.
1. 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.
 2. Provide sag rods for spans exceeding 14 feet (4.3 m).
- 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 of 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. Provide minimum of 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 and hardware manufacturers for entrances and uses indicated. Finish exposed parts to match door finish unless otherwise indicated.
- B. Limit Arm: Provide to control doors in the swing mode.
- C. Pulls: Manufacturer's standard recessed units on both sides of each operable door [and surface-mounted, D-shaped pull for each swing-out sidelite].
- D. Latching hardware shall be provided as indicated.
1. Positive Latch: Mortise type self-latching hookbolt, BHMA A156.5, Grade 1, with lever handles on each side.
 - a. Lever Style: End of lever to have a return towards door face.

2.6 FABRICATION

- A. General: Factory fabricate ICU/CCU entrance components to designs, sizes, and thicknesses indicated and to comply with indicated standards.
1. Fabricate aluminum components 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, fabricated from stainless steel.
 - 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.
 4. 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.
- B. Framing: Provide ICU/CCU entrances 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. Provide components with 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 install 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.
- F. Electrical Grounding: Fabricate ICU/CCU entrances to be internally grounded, complying with requirements of authorities having jurisdiction.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Apply organic and anodic finishes to formed metal after fabrication unless otherwise indicated.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

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 entrances.
- B. 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 nonmovement joints. Seal joints watertight.
 - 1. 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.
 - 2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous coating.
- B. 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.
 - 3. Level recesses for recessed floor tracks using shrinkage-resistant grout.
- C. Glazing: Install glazing as specified in Section 08 80 00 "Glazing."
- D. Sealants: Comply with requirements in Section 07 92 00 "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.
- E. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.
- F. Grounding: Connect ICU/CCU-entrance, electrical grounding systems to building grounding system as specified in Section 26 05 26 "Grounding and Bonding for Electrical Systems."

3.3 ADJUSTING

- A. Adjust operating hardware and moving parts for smooth and safe operation; lubricate as recommended by manufacturer.
- B. Adjust force to open swing panels.
- C. Test grounding system for compliance with requirements of authorities having jurisdiction.

3.4 CLEANING AND PROTECTION

- A. Clean glass and metal surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish.

B. Comply with requirements in Section 08 80 00 "Glazing" for cleaning and protecting glass.

END OF SECTION