

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes the following types of intensive care unit/critical care unit (ICU/CCU) entrances:
 - 1. Interior, single slide, manual sliding ICU/CCU entrances without track.
 - 2. Entrances shall be rated as an effective barrier against the passage of smoke.
- B. Related Sections:
 - 1. Division 7 Sections for caulking to the extent not specified in this section.
 - 2. Division 8 Section "Door Hardware" for hardware and custom stainless steel pulls to the extent not specified in this Section.
 - 3. Division 8 Section "Glazing" for materials and installation requirements of glazing for ICU/CCU entrances.

1.2 REFERENCES

- 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.
- B. 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
- C. International Organization for Standardization (ISO):
- D. ISO 9001 - Quality Management Systems National Fire Protection Association (NFPA):
 - 1. NFPA 105 – Standard for the Installation of Smoke Door Assemblies
- E. Underwriters Laboratories (UL):
 - 1. UL 1784 – Air Leakage Tests for Door Assemblies
- F. International Building Code (IBC) 2015
- G. National Association of Architectural Metal Manufacturers (NAAMM):
 - 1. Metal Finishes Manual for Architectural and Metal Products.
- H. American Architectural Manufacturers Association (AAMA):
 - 1. AAMA 607.1 - Clear Anodic Finishes for Architectural Aluminum.
 - 2. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.

3. AAMA 701 Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals.

1.3 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. Thermal Movements: Provide ICU/CCU entrances 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.
- C. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- D. Operating Range: Minus 30 deg F (Minus 34 deg C) to 130 deg F (54 deg C).
- E. Opening-Force Requirements for Egress Doors: Not more than 50 lbf (222 N) required to manually set door in motion, and not more than 15 lbf (67 N) required to open door to minimum required width.
- F. 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. The maximum air leakage rate for door assemblies shall be 3.0 ft³/min/ft² (0.9 m³/min/m²) of door opening at 0.30 in water column (75 Pa) for both the ambient and elevated temperature tests, in accordance with IBC 2003, and NFPA 101.
 2. Door shall be tested in accordance UL 1784.
 3. Installation shall be in accordance with NFPA 105.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Section 01 33 00 - Submittal Procedures.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work.
- C. Closeout Submittals:
 1. Owner's Manual.
 2. Warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project.

- B. **Manufacturer Qualifications:** A qualified manufacturer with a manufacturing facility certified under ISO 9001.
- C. **Source Limitations:** Obtain ICU/CCU entrances through one source from a single manufacturer.
- D. **Product Options:** Drawings indicate sizes, profiles, and dimensional requirements of ICU/CCU entrances and are based on the specific system indicated.
- E. **Emergency-Exit Door Requirements:** Where entrances including emergency breakaway feature are specified, comply with requirements of authorities having jurisdiction for ICU/CCU entrances serving as a required means of egress.

1.6 PROJECT 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.

1.7 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. **Custom Vertical Pulls:** Coordinate installation of ICU/CCU entrances with installation of custom vertical pulls, provided under separate section.
- C. **Electrical System Roughing-in:** Coordinate layout and installation of ICU/CCU entrances with connections to facility grounding system.

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 SLIDING ICU/CCU ENTRANCES

- A. Provide manual sliding door package consisting of a single sliding panel system with header/support beam, door carrier and top track. Unit to be non-breakaway and free of thresholds (trackless).

B. Provide one of the following:

1. Basis of Design: Stanley Access Technologies; Dura-Glide 7200 Series manual sliding ICU/CCU entrances.
2. Or Approved Equal.

2.2 MATERIALS

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

1. Headers, stiles, rails, and frames 6063-T6, 6063-T5.
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
3. Sheet and Plate: ASTM B 209.
4. Sealants and Joint Fillers: Performed under Division 7 Section "Joint Sealants".

2.3 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. ICU/CCU Entrances:

1. Single Slide Entrances; Mounted Between Jambs:
 - a. Configuration: One sliding panel and one full sidelight.
 - b. Traffic Pattern: Two-way.
 - c. Emergency Breakaway Capability: Sliding panels only.
 - d. Track: None, trackless.

2.4 COMPONENTS

A. Framing Members: Manufacturer's standard extruded aluminum reinforced as required to support imposed loads.

1. Nominal Size: 1 ¾ inch by 4 ½ inch (45 by 115 mm)
2. Concealed Fastening: Framing shall incorporate a concealed fastening pocket, and continuous flush insert cover, extending full length of each framing member.

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 or mechanically fasten corners with reinforcing brackets that are welded.

1. Glazing Stops and Gaskets: Snap-on, extruded-security aluminum stops and preformed gaskets.
2. Stile Design: Medium stile; 3 ½ inch (95 mm) nominal width.
3. Bottom Rail Design: Minimum 8 inch (203 mm) nominal height.
4. Muntin Bars: Horizontal tubular rail member for each door; 2 inch (51 mm) nominal width.

C. Glazing: Furnished under Division 8 Section Glazing. All Glazing furnished under separate section shall be 1/4 inch (6 mm) tempered.

- 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-riser wheels with factory adjusted cantilever and pivot assembly. Minimum two ball-bearing load wheels and two anti-rise rollers for each active leaf.
- F. Thresholds: None; trackless
- G. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding 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.
- B. Emergency Breakaway Feature: Where entrances including emergency breakaway feature are specified, provide release hardware that allows panel(s) to swing out in direction of egress to full 90 degrees from any position in sliding mode. Maximum force to open panel shall be 50 lbf (222 N).
 - 1. Emergency breakaway feature shall include at least one adjustable detent device mounted in the top of each breakaway panel to control panel breakaway force.
 - 2. Limit Arms: Limit arms shall be provided to control swing of sliding non-sliding panels on break-out; swing shall not exceed 90 degrees.
- 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.
- D. Smoke Seal Components: Provide manufactures standard smoke and draft control components as required to meet performance specifications. Components included but are not limited to:
 - 1. Dual nylon brush sweep mounted to underside of door panels.
 - 2. Rubber stile, top rail, and hanger seals.
- E. Pulls: Tice SST, 32D finish or approved equal
 - 1. Corridor side: Full-height
- F. Protection Bars: Tice 5/8" diameter #4 stainless steel or approved equal
 - 1. Corridor side: provide three (3) bars as indicated in Drawings.

2.6 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.

2.7 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.
- B. Class II, Clear Anodic Finish: AA-M10C22A31 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.

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. Grounding: Connect ICU/CCU entrances to building grounding system as specified in Division 26 Sections.
- D. Glazing: Performed under Division 8 Section "Glazing" in accordance with ICU/CCU entrance manufacturer's instructions.
- E. Sealants: Comply with requirements specified in Division 7 Section "Joint Sealants" to provide weather tight installation.

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 ADJUSTING

- A. Adjust ICU/CCU entrances, and hardware for smooth and safe operation.

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

END OF SECTION