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SECTION 08 42 30

ALL-GLASS AUTOMATIC ENTRANCES

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**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section Includes: Provide automatic sliding all-glass entrance systems including doors, frames, related glass and glazing, required anchors, shims, attachments and accessories as required for complete operational installation.
- B. Related Work:
  - 1. Section 08 41 20: All-glass entrances including non-automatic doors.
  - 2. Section 08 44 10: Glazed window walls including non-automatic doors.
  - 3. Division 26: Final electrical connections.

1.2 REFERENCES

- A. ANSI A156.10 (BHMA 1601): Power Operated Door Standard.
- B. National Association of Architectural Metal Manufacturers (NAAMM): Metal Finishes Manual.
- C. Glass Association of North America (GANA): Glazing Manual.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Design/Build: Provide special engineering for automatic entrances to ensure they comply with applicable codes and Contract Documents.

1.4 SUBMITTALS

- A. Product Data: Furnish manufacturer's literature.
- B. Shop Drawings: Indicate pertinent dimensioning, general construction, materials and finishes, component connections, anchorage methods and locations and hardware.
  - 1. Indicate exposed fasteners on shop drawings for specific approval.
- C. Samples: Submit each required aluminum finish, sheets and extrusions, of alloys to be used.
  - 1. Provide range samples indicating potential difference in finish and color if anticipated.
- D. Manufacturer's Certification: Submit manufacturer certification indicating installer is acceptable and system complies with requirements for emergency exits.
- E. Design/Build Certificates: Submit certification signed by California licensed structural engineer indicating compliance with Contract Documents and code requirements.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: Manufacturer or firm with minimum five years successful experience in the installation of automatic entrances similar to the type required and approved by manufacturer.

**1.6 WARRANTIES**

- A. Extended Correction Period: Provide for correction of automatic entrance system to operate smoothly and correctly, without structural failure, excessive deflection, excessive air infiltration, or deterioration of finishes.

- 1. Period: Two years.

**PART 2 - PRODUCTS****2.1 SYSTEMS MANUFACTURERS**

- A. Stanley Access Technologies/Dura-Slide 3000 All-Glass Doors.
- B. Horton Automatics Division/Series 2500 All-Glass Sliding Door System.
- C. ASSA ABLOY Besam/SL500 CG: Commercial All-Glass Entry Doors
- D. Substitutions: Refer to Section 01 25 00.

**2.2 MATERIALS**

- A. System Description: Provide automatic sliding all-glass entrance systems including doors, frames, related glass and glazing, required anchors, shims, attachments and accessories.
- B. Regulatory Requirements: Design system to comply with applicable codes and regulations.
  - 1. Safety Glass: Comply with applicable codes and CPSC 16 CFR 1201, and pass ANSI Z97.1.
  - 2. Emergency Exit Doors: Provide systems complying with requirements of applicable authorities for use as emergency exits.
  - 3. Accessibility: Comply with requirements of California Building Code and Americans with Disabilities Act (ADA) Standards to ensure access to persons with disabilities.
- C. Design Criteria: Design system as follows.
  - 1. Wind Loads: Support not less than 20-psf positive and negative.

2. Deflection: Maximum L/175, ASTM E330.
  3. Safety Factor: Minimum 1.5 times specified pressures with no glass breakage, no permanent damage to fasteners, and no permanent deformation of framing in excess of 0.2% of member clear span.
- D. Performance Criteria: Door speed to be 2.0 ft. per sec. opening; 1.0 ft. per sec. closing unless otherwise required by applicable codes or approved by Architect.
1. Operators: Fully adjustable opening, closing and checking speeds.
- E. Automatic All-Glass Entrance Systems: Complete automatic entrance system including electrical-mechanical door operator, motion detection operators, doors, frames, glazing, hardware and attachment system.
1. Detector: Infra-red or micro-wave motion detecting control system standard with manufacturer for specified system; no mats or posts permitted.
- F. Glass: ASTM C1048, Kind FT, select glazing quality, clear, fully tempered float glass; nominal 1/2" thick.
1. Glazing Gaskets: ASTM C509 or C864, neoprene or EDPM glazing gaskets.
- G. Door Rails and Framing Construction: Style as shown on Drawings.
1. Finish: BHMA 629 (US32), bright stainless steel, mirror polish.
- H. Hardware: Provide manufacturer's standard heavy-duty hardware as required for operation of each door.
1. Type: Capable of operating without failure of any component, for not less than 300,000 open and close cycles, with normal maintenance as defined in manufacturer's standard operating manual.
  2. Cylinders: Provided under Section 08 71 00 – Door Hardware; design locking system to accept cylinders provided.
  3. Thresholds: Complete with anchors and jamb clips, coordinated to door operation; maximum height 1/2", maximum single vertical lift 1/4".
- I. Weather-Stripping: Manufacturer's standard replaceable weather-stripping.
1. Compression Type: ASTM D2000 molded neoprene or ASTM D2287, PVC gaskets.
  2. Sliding Type: Wool, polypropylene, or nylon woven pile, with nylon fabric and aluminum strip backing.
- J. Sealants and Gaskets: As recommended by manufacturer to remain permanently elastic, non-shrinking, and non-migrating; provide throughout fabrication, assembly and installation.

- K. Fasteners: Aluminum, non-magnetic stainless steel, or other non-corrosive metal compatible with items being fastened.
  - 1. Do not use exposed fasteners except where unavoidable for assembly or for application of hardware.
  - 2. Where approved, exposed fasteners shall be Phillips flat-head screws or allen screws with finish matching item fastened.
  - 3. Provide concealed fasteners for glazing stops.
- L. Steel Reinforcement and Brackets: Manufacturer's standard with minimum 2.0 oz. hot-dip zinc coating, ASTM A123, applied after fabrication.
- M. Bituminous Coating: Cold-applied mastic, SSPC Paint 12, compounded for 30 mil thickness per coat.

## **2.3 FABRICATION**

- A. Shop Fabricate: Provide each continuous entrance unit including hardware and accessory items as a packaged entrance unit.
  - 1. Complete fabrication, assembly, finishing, application of hardware and other work before shipment, to greatest extent possible.
  - 2. Disassemble only to extent necessary of shipment and installation.
- B. Complete cutting, fitting, forming, drilling and grinding of metal work prior to cleaning and finishing.
  - 1. Remove arises from cut edges and ease edges and corners to radius of approximately 1/64".
- C. Weld by methods recommended by AWS to avoid discoloration at welds; grind exposed welds smooth and restore mechanical finish.
- D. Conceal fasteners unless otherwise approved by Architect.
- E. Maintain continuity of line and accurate relation of planes and angles; provide secure attachment and support at mechanical joints, with hairline fit of contacting members.
- F. Reinforce work as necessary for performance requirements, and for support to structure.
- G. Separate dissimilar metals with bituminous paint or preformed separators which will prevent corrosion.
  - 1. Separate metal surfaces at moving joints with non-metallic separators to prevent "freeze-up" of joints.

- H. Weatherstripping: Where door stiles or head rails do not close against fixed stops with compression seals, provide sliding weatherstripping, in adjustable strip in mortise centered in edge of door.
- I. Frames: Fabricate frame assemblies for exterior walls with flashing and weeps to drain penetrating moisture to exterior.
  - 1. Provide anchorage and alignment brackets for concealed support of assembly from building structure; allow for thermal expansion.
- J. Hardware: Install hardware at fabrication plant; remove only as required for final finishing and for delivery and installation.
- K. Special Features:
  - 1. Provide emergency breakaway swing feature with self-closing feature so panels close automatically when swung opened, and doors remain operational.
  - 2. Safety release clutch for obstructed closing and with checking for both opening and closing cycles.
  - 3. Interlocks: Provide electrical interlocks that prevent operation of doors when locked or latched.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine areas and conditions under which automatic doors are to be installed.
  - 1. Coordinate automatic doors with shop drawings and installation of aluminum window wall system.
- B. Beginning of work signifies acceptance of conditions and adjacent materials.

#### **3.2 INSTALLATION**

- A. Install automatic all-glass entrances in accordance with manufacturer's recommendations and installation instructions and to meet regulatory requirements, design criteria, and performance criteria, in configurations indicated.
  - 1. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- B. Set units plumb, level and true to line, without warp or rack of frames or doors; anchor securely in place.
  - 1. Maximum Offset between Members: 1/16".
- C. Set sill members and thresholds in a bed of compound, or with joint fillers or gaskets to provide weather-tight construction.

- D. Install complete door operator system including controls, control wiring and power units.
- E. Set tracks, header assemblies, operating brackets, rails and guides level and true to location, with adequate anchorage for permanent support.
- F. Glass Installation: Factory or field install glass and glazing; comply with glass manufacturer recommendations and GANA Glazing Manual; do not allow glass to touch metal surfaces.

### **3.3 ADJUST AND CLEAN**

- A. After operation of completed installation equivalent to three days use, 300 to 1000 cycles, readjust door operators and controls for optimum operating condition and safety.
- B. Lubricate operating equipment and clean exposed surfaces.
- C. Glass: Remove nonpermanent labels immediately; remove and replace glass which is broken, chipped, cracked, abraded or damaged, including damage due to natural causes, accidents and vandalism.

**END OF SECTION**