

DAWSON DOORS

SECTION 08 42 36

EXTRUDED ALUMINUM BALANCED DOOR ENTRANCES WITH POWER OPERATION

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PART I - GENERAL

1.01 DESCRIPTION

- A. Work includes exterior entrance and vestibule doors and frames, related sidelites and transoms where applicable, thresholds, and finished hardware as shown on drawings or specified.

1.02 RELATED WORK:

- A. Section [07 92 00], joint sealants between frames and masonry; at interface of entrance assemblies and other building components.
- B. Section [08 44 00], curtain wall and glazed assemblies; for surrounding framing.
- C. Section [08 71 00], door hardware; other than hardware specified as part of entrance assemblies, cylinders; coordination with security system.
- D. Section [08 81 00], glass glazing; glass types, quality and requirements*.
- E. Section [05 10 00], structural metal framing
- F. Section [26 00 00], electrical; coordination with security, fire alarm systems.

1.03 QUALITY ASSURANCE:

- A. Manufacturer shall have been regularly engaged in manufacturing balanced doors and frames for a period of ten years.
- B. Balanced hardware shall be engineered and fabricated by the door manufacturer.
- C. Dawson Doors is an ISO certified company.

1.04 SUBMITTALS

- A. Shop drawings shall include elevations with sections and details at full scale. Include glass and metal thicknesses, joining details, field connections, anchorage, concealed and exposed fastening methods, door and framing reinforcement, and metal finishes. Indicate compliance with specified design criteria.
- B. Visual samples: Two (2) finish samples shall be submitted per customer specifications indicating texture to be expected in finished work.
 1. **Select material:**
 - a. Stainless steel clad: 22 gauge type 304 or type 316
 - Finish: #4 or #6 satin, #8 mirror, or non-directional
 - b. Bronze clad: .030” thick naval brass alloy #464 / muntz metal alloy #280 / commercial bronze alloy #220
 - Finish: #4 or #6 satin, #8 mirror, or non-directional
 - c. Aluminum extrusion
 - Finish (please specify): clear anodized or painted

2. Other finishes available; consult factory
- C. Maintenance and Cleaning Data: Instructions for general maintenance and repair of surfaces and finishes.

1.05 WARRANTY:

- A. All finished hardware and material not fabricated by Dawson to carry's manufacturer's standard warranty
- B. Door operating mechanisms shall be warranted against defective materials and workmanship for ten (10) years beginning at completion of installation.
 1. Adjustments made necessary by shifting or settling of building structure shall not be covered by warranty.
 2. Labor required to replace or repair warranted parts is by others.
- C. This warranty does not cover the breakdown of protective coatings furnished and applied by others.

1.06 DELIVERY, STORAGE AND HANDLING:

- A. Materials shall be packed, unloaded, stored and protected to avoid abuse and damage.
- B. Protect finished surfaces with wrapping and/or strippable coating.
- C. When unloading, remove all paper type wrappings that are wet or which could become wet.
- D. Store inside, if possible, in clean well drained area free of dust and corrosive fumes.
- E. Stack vertically or on edge so that water cannot accumulate on or within materials, using wood or plastic shims between components to provide water drainage and air circulation.
- F. Cover materials with tarpaulins or plastic hung on frames to provide air circulation.
- G. When installing protect materials from lime, mortar, run-off from concrete and copper, weld splatter, acids, roofing tar, solvents and abrasive cleaners.

PART II - PRODUCTS

2.01 MANUFACTURER:

- A. Dawson Doors Division/Dawson Metal Company, Inc.; 825 Allen Street, Jamestown, NY 14701.
Phone: (716) 664-3811 Fax: (716) 661-3722
Website: www.dawsondoors.com
E-mail: info@dawsondoors.com

2.02 MATERIALS AND FINISHES:

- A. Aluminum Extrusions, Aluminum Type 6063
- B. Finish Material - **select one**:
 1. For Clad Finish:
 - a. Bronze – **please select alloy**: naval brass alloy #464 / muntz metal alloy #280 / commercial bronze alloy #220
 - b. Stainless steel – **please select type**: type 304 - or - type 316
 1. Specify type 316 for corrosive environments
 - c. Finish – **select one of the following**: #4 satin, #6 satin, #8 mirror, or non-directional
 2. For Aluminum Surface – **please select one**:
 - a. clear anodized
 - b. painted finish
 3. Other finishes available – consult factory

2.03 BALANCED DOORS AND FRAMES:

- A. Doors:
 1. Aluminum doors to be fabricated from aluminum extrusions 1/8" minimum wall thickness
 2. Door thickness: 1-3/4"
 3. Door width: 38" Minimum (consult factory)
 4. Door height: up to 10' MAXIMUM
 - a. Consult factory for door height over 10'

- b. Door heights of 10' will require minimum of 1 horizontal crossrail
- 5. Stiles: 4" standard
- 6. Top rail: 4" standard
- 7. Bottom rail: 10" standard
- 8. All reinforcing material to be aluminum or stainless steel and welded or mechanically fastened to door body. Plastic or other glued-in reinforcements or stiffeners are not allowed.
- 9. Fasteners associated with door construction shall be stainless steel or brass, concealed type.
- 10. Glazing: Aluminum extruded snap-on glass stops

B. Frames:

- 1. Aluminum frames shall be fabricated from aluminum extrusions.
- 2. Minimum dimension of the door head frame shall be 6 inch (191mm) high x 6 inch (152mm) deep.
 - a. For Clad Finish:
 - 1. Bronze .09" (2mm)
 - 2. Stainless steel .09" (2mm)
 - b. For Painted Finish:
 - 1. Galvannealed steel .09" (2mm)
- 2. Minimum face dimension of frame to be 3".
- 3. Minimum depth of frame to be 6".
- 4. Frames shall be erected without the use of exposed screws where feasible.
- 5. Portion of hinge jamb shall be removable for access to operating hardware.
- 7. The hinge shaft may be exposed if desired. Exposed hinge shaft shall be clad with 16 gauge stainless steel or .06" thick bronze in finish to match the doors.

2.04 HARDWARE AND WEATHERSTRIPPING:

A. Balanced Hardware:

- 1. All balanced door hardware shall be manufactured by the door fabricator. Exposed hardware will be manufactured of stainless steel or bronze and finished per specification (see selection below). Internal structural components shall be manufactured from stainless steel or bronze.
- 2. All components must be of heavy duty design and must be adjustable for variations in door size, door weight, and varying building pressures.
- 3. Balanced hardware shall consist of the following items:
 - a. Cast hydraulic check mechanism with integral closer spring, swing speed and latch speed adjustments to be concealed in head frame. The hydraulic check mechanism must be removable without removal of the door, head frame, or other parts of the balanced door system. Exposed closer arms are unacceptable.
 - b. The hinge shaft shall be a heavy duty steel tube 1.90" diameter with 3/16" minimum wall thickness. Top and bottom arms will be cast solid stainless steel or bronze and welded to the hinge tube. All pivot points on top and bottom arms shall contain self-aligning radial bearings and thrust bearings where applicable. Plastic bearings will not be accepted.
 - c. Hinge shaft may be exposed if desired. Exposed hinge shafts to be clad in 16 gauge stainless steel or .06" thick bronze in finish to match doors.
 - d. The door guide channel will be made of cast stainless steel or cast bronze (3.97" x 3/4" with 9/16" minimum wall thickness), and include a metal reinforced mechanical back check device.
 - e. Operating mechanism in the head shall include bearings at all pivot points.
 - f. A semi-automatic hold open device will be located in the bottom rail of the door.
- 4. Means shall be provided which make possible field adjustments for proper perimeter clearance of each door leaf in relation to its finished framework.
- 5. Doors can be provided with all specified hardware as required.
- 6. Hardware and material finish: Cast stainless steel or bronze; satin or polished finish.

B. Power Operation:

- 1. The concealed power operator and specified actuators and/or safety devices shall be provided by the door manufacturer as part of a door unit package (unique to the balanced door system). The operator

shall be completely concealed within the door header attached to the door via drive arm and modified slide track, which is concealed when the door is in the closed position. When used manually, the manual assist function aids in the opening of the door, allowing the balanced door components to operate and close the door. Latch assist function assures closing in areas with heavy stack conditions.

- a. Record 8100 extra heavy duty (low energy) concealed overhead electromechanical power operator with control system, conforming to ANSI/BHMA A156.19. 3.0A, 115 VAC. Adjustable opening speed and hold open time. Latch assist bumps the door closed even harder to ensure lock hardware latching.
- b. Push Plate Actuator Switches are stainless steel 6 inch (152 mm) round wall mounted push plate actuator switch engraved with either handicap insignia and/or "press to open"
 - 1) Optional wireless transmitter that eliminates routing control wires.
- c. Electrical: requirements for work specified in others sections. The general or electrical contractor shall furnish and install 120 VAC, 60 cycle, 1 phase, 15 AMP service to the operator. Two (2) low voltage wires shall be furnished to connect each of the push plate actuator switches and key switches to the operator.
- d. Optional On-Off Key Switch: on-off, maintained contact, key switch removes power to push button switches and/or operator(s). Key removable in both positions. A momentary contact switch is available.
 - 1) Optional wireless transmitter that eliminates routing control wires.
- e. Optional Safety Sensor: safety sensor to be mounted on the swing side of the door header. It scans the safety zone (swing door area) and prevents the door from opening when the presence of a person in its safety zone (door swing area) is detected.

C. Finish Hardware – (can be furnished upon request):

1. Standard locking hardware:
 - a. Adams Rite deadlock (for single door).
 - b. Adams Rite deadlock and flush bolts (for pair of doors).
 - c. Adams Rite dead latch with lever handle or push paddle (for single door).
 - d. Adams Rite dead latch with lever handle or push paddle and flush bolts (for pair of doors).
2. Standard push/pull hardware to be 1" diameter aluminum (custom push/pulls available upon request).
3. Panic hardware to be furnished by the door supplier. To be equal to Von Duprin touch pad type panic exit device in finish as selected from manufacturers standards:
 - a. Concealed vertical rod type (for pair of doors).
 - b. Rim type (for single door).
4. Temporary cylinders with keys to be provided for mechanical locking hardware.
5. Permanent master keyed cylinders to be provided by others as specified in separate section.

D. Thresholds:

1. Can be furnished upon request.
2. Thresholds can be aluminum, bronze or stainless steel.
3. Woodscrew and rawl plug type fastenings shall be approximately 15" on center.
4. Thresholds shall be 6" wide, shall be set on the finished floor, and shall be adequately caulked against water seepage.

E. Weatherstrip:

1. Shall be manufacturer's standard polypropylene pile.
2. Shall occur:
 - a. Vertically at meeting stiles on pairs of doors.
 - b. Concealed at door top and bottom rails (adjustable).
 - c. At door stops at both hinge and strike jambs (adjustable).
 - d. At both sides of exposed hinge shaft (if selected).

2.05 SHOP INSPECTION:

A. Prior to leaving the factory, all balanced doors and immediate framing shall be assembled and prehung. At this time, adjustment shall be made to provide proper perimeter clearance between door and frame. All coordination between door frame and finish hardware shall be tested.

PART III – EXECUTION

3.01 EXAMINATION

- A. The installer/erector shall examine substrates, supports and conditions under which this work is to be performed and notify contractor, in writing, of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.
- B. The floor material shall be solid (not susceptible to either deterioration or heaving), smooth and level and the adjacent work in its proper place prior to the installation of the door and frame system.
- C. Coordination dimensions, tolerances and method of attachment with other work.
- D. Verify electric power is available and of correct characteristics, if required.

3.02 INSTALLATION/ERECTION

- A. Install entrances and framing system in accordance with approved shop drawings, plumb, level and true to line, with specified tolerances. Install frames without use of exposed fasteners, except where indicated on shop drawings.
- B. Before anchoring to structure, shim and brace work plumb, level and in designated location.
- C. Caulk perimeter of thresholds using exterior sealant.
- D. Install doors and hardware in accordance with manufacturer's product data. Adjust hardware for proper operation.
- E. Adjust door closer for smooth operation throughout swing.
- F. All materials shall be installed by factory-trained erectors in strict accordance with installation data provided by factory and these specifications.
- G. All doors shall be adjusted after glazing contractor completes his work and readjusted when necessary prior to owner's acquisition of the building.

3.03 CLEANING:

- A. Remove stains or materials having adverse effect on components and finishes as work progresses.
- B. Just prior to Date of Substantial Completion, clean entire entrance assembly, including interior and exterior metal and glass. Comply with door manufacturer's product data for cleaning. Flush with clean water.
- C. In those instances where bronze clad material is selected, it is strongly recommended that oxidized finish and/or lacquer coating be applied by a professional finisher after job is erected, and that finisher is contacted to perform regular maintenance and refinishing of your product.

3.04 PROTECTION:

- A. Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful elements and from careless handling, storage or machining.
- B. The contractor to institute protective measures required throughout the remainder of the construction period to ensure that the balanced door units will be without damage or deterioration, other than normal weathering, at the time of substantial completion.