

# DAWSON DOORS

## SECTION 08 42 36

### BRONZE BALANCED DOOR ENTRANCES WITH POWER OPERATION

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#### PART I - GENERAL

##### 1.01 DESCRIPTION

- A. Work includes all entrance and vestibule doors and frames, “Balanced Door” units consisting of doors, frames, related sidelight and transom areas where applicable thresholds, operating mechanism 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 of balanced doors and frames for a period of ten (10) years.
- B. Doors, frames and balanced hardware shall be engineered and fabricated by the same manufacturer
- C. The manufacturer must have a quality system registered to the ISO9001:2008 standard

##### 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 (minimum 4” x 6”) shall be submitted per customer specifications indicating texture to be expected in finished work.
  - 1. Material
    - a. Naval brass alloy #464
    - b. Muntz metal bronze alloy #280
    - c. Commercial bronze alloy #220
  - 2. Finishes
    - a. #4 satin

- b. #6 fine satin
  - c. #8 mirror
  - d. Non-directional (angel hair)
  - e. Statuary finish and/or clear lacquer coating shall be furnished and applied by other upon completion of installation.
- C. Maintenance and Cleaning Data: Instructions for general maintenance and repair of surfaces and finishes.

1.05 WARRANTY:

- A. All finished hardware not fabricated by Dawson to carry's manufacturer's standard warranty
- B. Dawson's door operating mechanisms shall be warranted against defective materials and workmanship for ten (10) years beginning at completion of installation. Dawson's manufactured material furnished and installed to these specifications shall be warranted against defective materials and workmanship (Custom and Standard Series- ten (10) years; Rugged Series- fifteen (15) years; Designer Series- three (3) years) beginning at completion of installation.).
  - 1. Warranty is not intended to cover adjustments made necessary by shifting or settling of building structure
  - 2. This warranty does not cover the breakdown of protective coatings furnished and applied by others. Material will be crated and protected against damage during shipment to the job site. Dawson will accept no responsibility for discoloration of any type after date of delivery to the job site. This responsibility must rest with whoever has control or supervision of areas where this material is stored or installed.
  - 3. The Record power operator and related devices will carry the manufacturer's standard two (2) year warranty on parts.
  - 4. All Labor required for replacement or repair of warranted parts is to be 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](http://www.dawsondoors.com)  
E-mail: [info@dawsondoors.com](mailto:info@dawsondoors.com)

2.02 MATERIALS AND FINISHES:

- A. Materials
  - 1. Naval brass alloy #464
  - 2. Muntz metal bronze alloy #280
  - 3. Commercial bronze alloy #220

B. Finishes

1. #4 satin
2. #6 fine satin
3. #8 mirror
4. Non-directional (angel hair)
5. Statuary finish and/or clear lacquer coating shall be furnished and applied by others upon completion of installation.

2.03 BALANCED DOORS AND FRAMES

***\*Balanced doors are a system that required same manufacturer's framing and balanced hardware\****

A. Doors:

1. Custom series (13 gauge/ .09 inch (2 mm) thick)  
*\* Formed in exterior glass stops with removable interior stops mitered to hairline corners/door bodies shall be blanked out from one sheet of metal and shall have no visible seams. NO welding is performed on face of doors. \**
2. Standard series (.09 inch (2 mm) thick)  
*\* Applied brake-formed glass stops (no exposed fasteners)/door bodies shall be blanked out from one sheet of metal and shall have no visible seams. NO welding is performed on face of doors. \**  
*Note: excluding #8 Mirror Polish finish and commercial bronze*
3. Rugged series (.125 inch (3 mm) thick)- Heavy Duty  
*\* Applied brake-formed glass stops (no exposed fasteners)/door bodies shall be blanked out from one sheet of metal and shall have no visible seams. NO welding is performed on face of doors. \**  
*Note: excluding #8 Mirror Polish finish and commercial bronze*
4. Designer series (.09 inch (2 mm) thick)  
*\* Applied brake-formed glass stops/door bodies shall be offset constructed with visible seams. Attached rails to stiles with stainless steel tie rods\**
  - a. Door thickness: 2 inch (51 mm)
  - b. Door width: [ ] inch ([ ] mm).
  - c. Door height: [ ] feet [ ] inch ([ ] mm).
  - d. Stiles: [ ] inch ([ ] mm).
  - e. Top rail: [ ] inch ([ ] mm)
  - f. Bottom rail: [ ] inch ([ ] mm).
  - g. Intermediate vertical and horizontal muntins (for true divided light/multi-light construction):
    - 1) Bar material: [ ] inch ([ ] mm).
    - 2) Sheet material: [ ] inch ([ ] mm).
  - h. Formed bronze doors shall have a minimum of .09 inch (2 mm) thick "interlocking" structural sub-frame welded within the door body.
  - i. All reinforcing material to be bronze and welded to door body. Aluminum, plastic or other glued-in reinforcements or stiffeners are unacceptable.
  - j. Glass: as specified in section [08 81 00].

B. Frames:

1. Custom series (.09 inch (2 mm) thick)  
*\*Fully Welded construction with welds ground smooth and blended to be indistinguishable in finished work (KD-knocked down is not acceptable)/ Finish applied after fabrication to ensure a blemish free surface\**

- a. Minimum dimension of the door head frame shall be 6 inch (191mm) high x 6 inch (152 mm) deep
- b. Minimum dimension of the vertical jamb framing (sidelight and transom area where applicable) shall be 3 inch (76 mm) face x 6 inch (152 mm) deep.
- c. Hinge shaft configuration:
  - 1) Concealed with portion of hinge jamb to be removable for access to operating hardware.
  - 2) Exposed with hinge shaft clad in bronze (in matching finish to door and/or frame).
- d. Glass stops (at sidelight and transom areas, where applicable):
  - 1) Applied to framing.
  - 2) Flush glazed formed into framing.
- e. Glass: as specified in section [08 81 00].

## 2.04 HARDWARE AND WEATHER-STRIPPING

### A. Balanced Hardware:

1. All balanced door hardware shall be manufactured by the door fabricator. Exposed hardware will be manufactured of bronze and finished per specification (see selection below). Internal structural components shall be manufactured from 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 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. Back check mechanism (secondary spring bumper allowing for a two point and two phase spring stop cushioning the door down to a 90° opening position).
  - c. The hinge shaft shall be a heavy duty steel tube 1.90 inch (48mm) diameter with 3/16 inch (5mm) minimum wall thickness. Top and bottom arms will be cast solid 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.
  - d. Hinge shaft may be exposed if desired. Exposed hinge shafts to be clad in 16 gauge bronze and finished to match doors.
  - e. The door guide channel will be made of cast bronze (3.97 inch (101 mm) x ¾ inch (19 mm) with 9/16 inch (14 mm) minimum wall thickness), and include a metal reinforced mechanical back check device.
  - f. Operating mechanism in the head shall include bearings at all pivot points.
  - g. A semi-automatic hold open device will be located in the bottom rail of the door.
  - h. Doors designated as handicapped entrances shall have a maximum of 8 lbs spring tension adjustment at pull handle. The hydraulic check shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum
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 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 inch (25 mm) diameter offset profile with 12 inch (305 mm) centers in finish as selected from manufacturer’s standards.
  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 (can be furnished upon request):
1. Series #100 (flat)
    - a. Material:
      - 1) Naval brass alloy #464
      - 2) Muntz metal alloy #280
    - b. Height: available in ¼ inch (6.35 mm) or ½ inch (12.7 mm)  
[ ] inch ([ ] mm)
    - c. Width: [ ] inch ([ ] mm)
    - d. Finish upon request
  2. Series #200 (half-saddle)
    - a. Material:
      - 1) Naval brass alloy #464
      - 2) Muntz metal alloy #280

- b. Height: available in ½ inch (12.7 mm)
  - c. Width: [ ] inch ([ ] mm)
  - d. Finish upon request
3. Series #300 (ramp)
- a. Material:
    - 1) Naval brass alloy #464
    - 2) Muntz metal alloy #280
  - b. Height: available in ½ inch (12.7 mm)
  - c. Width: [ ] inch ([ ] mm)
  - d. Finish upon request
4. Provide woodscrew and rawl plug type fastenings approximately 15 inches (381 mm) on center.
5. Thresholds shall be set on the finished floor and adequately caulked against water seepage.
- E. Weather-strip:
- 1. Shall be manufacturer's standard polypropylene pile.
  - 2. Shall occur:
    - a. Vertically at meeting and hinge stiles (adjustable).
    - b. Concealed at door top and bottom rails (adjustable).
    - c. At both sides of exposed hinge shaft (if selected).

## 2.05 SHOP INSPECTION

- A. Prior to leaving 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 and all coordination between doors, frames 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 threshold 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 material 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. It is strongly recommended the oxidized finish and/or lacquer coating shall 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.