

## SECTION 083613 - SECTIONAL DOORS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Section includes electrically operated sectional doors.
- B. Related Requirements:
  - 1. Section 055000 "Metal Fabrications" for miscellaneous steel supports.
  - 2. Section 099100 "Painting" for finish painting of factory-primed doors.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type and size of sectional door and accessory.
  - 1. Include construction details, material descriptions, dimensions of individual components, profile door sections, and finishes.
  - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
- B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
  - 1. Include plans, elevations, sections, and mounting details.
  - 2. Include details of equipment assemblies. Indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
  - 3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
  - 4. Include diagrams for power, signal, and control wiring.
- C. Samples for Initial Selection: For units with factory-applied finishes.
  - 1. Include Samples of accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:
  - 1. Flat door sections with sensor edge on bottom section.
  - 2. Frame for paneled door sections; of each width of stile and rail required.

3. Panel for raised-panel door sections; not smaller than required to show raised-panel profile.

#### 1.4 INFORMATIONAL SUBMITTALS

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

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sectional doors to include in maintenance manuals.

#### 1.6 QUALITY ASSURANCE

- A. Wood Sectional Door Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.
- C. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC A117.1.

#### 1.7 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of sectional doors 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. Failure of components or operators before reaching required number of operation cycles.
    - c. Faulty operation of hardware.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use; rust through.
    - e. Delamination of exterior or interior facing materials.
  2. Warranty Period: Five years from date of Substantial Completion.
- B. Special Finish Warranty: Manufacturer agrees to repair or replace components that show evidence of deterioration of factory-applied finishes within specified warranty period.
  1. Warranty Period: 10 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS, GENERAL

- A. Source Limitations: Obtain sectional doors from single source from single manufacturer.
  - 1. Obtain operators and controls from sectional door manufacturer.

### 2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Sectional doors shall comply with performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction.

### 2.3 DOOR ASSEMBLY

- A. Full-Vision Aluminum Sectional Door: Sectional door formed with hinged sections and fabricated according to DASMA 102 unless otherwise indicated.
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide CA220 Series as manufactured by Haas Door or comparable product by one of the following:
    - a. Clopay Building Products.
    - b. Overhead Door Corporation.
    - c. Raynor.
    - d. Rite-Hite Corporation.
    - e. Wayne-Dalton Corp.
  - 2. Framing: Sections shall be 1.75 inches (44.5mm) thick full tubular aluminum framework with 0.125 inch (3.18mm) wall thickness wherever hardware attaches. Vertical stiles and horizontal rails shall be assembled using internal steel thru-bolts. Horizontal meeting rails shall have tongue and groove joints. Bottom rails, top rails and end stiles are 6 inches (152mm). Center stiles are 2 inches (51mm). Meeting rails are 4 inches (102mm).
    - a. Doors are built to meet or exceed standards established by ANSI/DASMA 102-2011.
    - b. Panels: Section height as indicated.
    - c. Glazing panels as selected shall be set in a continuous glazing sealant and held in place by inside vinyl snap-in glazing bead.
  - 3. Color as selected by Architect.
- B. Operation Cycles: Door components and operators capable of operating for not less than 100,000. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.
- C. Aluminum Sections: Full vision.
- D. Track Configuration: Standard-lift track.

- E. Weatherseals: Fitted to bottom and top and around entire perimeter of door.
- F. Windows: Full Vision and spaced apart the approximate distance as indicated on Drawings; in four row(s) at height indicated on Drawings; installed with glazing of the following type:
  - 1. Clear Float Glass:  $\frac{1}{4}$ " thick and complying with ASTM C 1036, Type I, Class 1, Quality Q3. Tempered.
- G. Roller-Tire Material: Manufacturer's standard.
- H. Locking Devices: Equip door with locking device assembly.
  - 1. Locking Device Assembly: Single-jamb side locking bars, operable from inside and outside, with cylinders.
- I. Counterbalance System: Provided with aircraft-type, galvanized steel lifting cables with minimum safety factor of 7. Torsion Springs consisting of heavy-duty oil-tempered wire torsion springs on a continuous ball-bearing cross-header shaft.
- J. Manual Door Operator: Push-up operation.
- K. Door Finish:
  - 1. Baked-Enamel or Powder-Coat Finish: Color and gloss as selected by Architect from manufacturer's full range.
  - 2. Finish of Interior Facing Material: Finish as selected by Architect from manufacturer's full range.

## 2.4 TRACKS, SUPPORTS, AND ACCESSORIES

- A. Tracks: Manufacturer's standard, galvanized-steel track system of configuration indicated, sized for door size and weight, designed for lift type indicated and clearances indicated on Drawings, Provide complete system including brackets, bracing, and reinforcement to ensure rigid support of ball-bearing roller guides for required door type, size, weight, and loading.
  - 1. Galvanized Steel: ASTM A 653/A 653M, minimum G60 (Z180) zinc coating.
  - 2. Slope tracks at an angle from vertical or design tracks to ensure tight closure at jambs when door unit is closed.
  - 3. Track Reinforcement and Supports: Galvanized-steel members to support track without sag, sway, and vibration during opening and closing of doors. Slot vertical sections of track spaced 2 inches (51 mm) apart for door-drop safety device.
    - a. For Vertical Track: Continuous reinforcing angle attached to track and attached to wall with jamb brackets.
    - b. For Horizontal Track: Continuous reinforcing angle from curve in track to end of track, attached to track and supported at points by laterally braced attachments to overhead structural members.
- B. Windows: Manufacturer's standard window units of type, size, and in arrangement indicated. Set glazing in vinyl, rubber, or neoprene glazing channel for metal-framed doors and elastic

glazing compound for wood doors, as required. Provide removable stops of same material as door-section frames.

## 2.5 HARDWARE

- A. General: Heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.
- B. Hinges: Heavy-duty, galvanized-steel hinges of not less than 0.079-inch- (2.01-mm-) nominal coated thickness at each end stile and at each intermediate stile, according to manufacturer's written recommendations for door size. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is impossible. Provide double-end hinges where required, for doors more than 16 feet (4.88 m) wide unless otherwise recommended by door manufacturer.
- C. Rollers: Heavy-duty rollers with steel ball-bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Provide 3-inch- (76-mm-) diameter roller tires for 3-inch- (76-mm-) wide track and 2-inch- (51-mm-) diameter roller tires for 2-inch- (51-mm-) wide track.
- D. Push/Pull Handles: Equip each push-up operated door with galvanized-steel lifting handles on each side of door, finished to match door.
- E. Chain Keeper: Provide wall mounted chain keeper on manually operated doors.

## 2.6 LOCKING DEVICES

- A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on single-jamb side, operable from inside only.

## 2.7 COUNTERBALANCE MECHANISM

- A. Torsion Spring: Counterbalance mechanism consisting of adjustable-tension torsion springs fabricated from steel-spring wire complying with ASTM A 229/A 229M, mounted on torsion shaft made of steel tube or solid steel. Provide springs designed for number of operation cycles indicated.
- B. Cable Drums and Shaft for Doors: Cast-aluminum or gray-iron casting cable drums mounted on torsion shaft and grooved to receive door-lifting cables as door is raised. Mount counterbalance mechanism with manufacturer's standard ball-bearing brackets at each end of torsion shaft. Provide one additional midpoint bracket for shafts up to 16 feet (4.88 m) long and two additional brackets at one-third points to support shafts more than 16 feet (4.88 m) long unless closer spacing is recommended by door manufacturer.
- C. Cables: Galvanized-steel, multistrand, lifting cables with cable safety factor of at least 7 to 1.
- D. Cable Safety Device: Include a spring-loaded steel or spring-loaded bronze cam mounted to bottom door roller assembly on each side and designed to automatically stop door if either lifting cable breaks.

- E. Bracket: Provide anchor support bracket as required to connect stationary end of spring to the wall and to level the shaft and prevent sag.
- F. Bumper: Provide spring bumper at each horizontal track to cushion door at end of opening operation.

## 2.8 MANUAL DOOR OPERATORS

- A. General: Equip door with manual door operator by door manufacturer.
- B. Push-up Operation: Lift handles and pull rope for raising and lowering doors, with counterbalance mechanism designed so that required lift or pull for door operation does not exceed 25 lbf (111 N).

## 2.9 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM/NOMMA's "Metal Finishes Manual for Architectural and Metal Products (AMP 500-06)" for recommendations for applying and designating finishes.
- B. 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.

## 2.10 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603. Comply with coating manufacturer's written instructions for cleaning, conversion coating, application, and baking.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.
- B. Examine locations of electrical connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Tracks:

1. Fasten vertical track assembly to opening jambs and framing, spaced not more than 24 inches (610 mm) apart.
2. Hang horizontal track assembly from structural overhead framing with angles or channel hangers attached to framing by welding or bolting, or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door-operating equipment.

### 3.3 ADJUSTING

- A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.
- B. Lubricate bearings and sliding parts as recommended by manufacturer.
- C. Touch-up Painting: Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780/A 780M.

### 3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.

END OF SECTION 083613

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