SECTION 08360

SECTIONAL OVERHEAD DOORS

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PART 1 GENERAL

1.1 SECTION INCLUDES

A. Insulated Sectional Overhead Doors.

B. Steel Sectional Overhead Doors.

C. Glazed Aluminum Sectional Overhead Doors

D. Electric Operators and Controls.

E. Operating Hardware, tracks, and support.

1.2 RELATED SECTIONS

A. Section 03300 - Cast-In-Place Concrete: Prepared opening in concrete. Execution requirements for placement of anchors in concrete wall construction.

B. Section 04810 - Unit Masonry Assemblies: Prepared opening in masonry. Execution requirements for placement of anchors in masonry wall construction.

C. Section 05500 - Metal Fabrications: Steel frame and supports.

D. Section 06114 - Wood Blocking and Curbing: Rough wood framing and blocking for door opening.

E. Section 07900 - Joint Sealers: Perimeter sealant and backup materials.

F. Section 08710 - Door Hardware: Cylinder locks.

G. Section 09900 - Paints and Coatings: Field painting.

H. Section 11150 - Parking Control Equipment: Remote door control.

I. Section 16130 - Raceway and Boxes: Empty conduit from control station to door operator.

J. Section 16150 - Wiring Connections: Electrical service to door operator.

1.3 REFERENCES

A. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.

B. ASTM A 123 – Zinc hot-dipped galvanized coatings on iron and steel products.

C. ASTM A 216 - Specifications for sectional overhead type doors.

D. ASTM A 229 - Steel wire, oil-tempered for mechanical springs.

E. ASTM A 653 - Steel sheet, zinc-coated galvanized by the hot-dipped process, commercial quality.

F. ASTM D 1929 - Ignition temperature test to determine flash and ignition temperature of foamed plastics.

G. ASTM E 84 - Tunnel test for flame spread and smoke developed index.

H. ASTM E 330 - Structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference.

I. ASTM E 413 - Classification for Rating Sound Insulation

J. ASTM E 1332 - Standard Classification for Rating Outdoor-Indoor Sound Attenuation.

K. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Wind Loads: Design and size components to withstand loads caused by pressure and suction of wind acting normal to plane of wall as calculated in accordance with applicable code.
   1. Design pressure of _____ lb/sq ft (_____kPa).

B. Wiring Connections: Requirements for electrical characteristics.
   1. 115 volts, single phase, 60 Hz.
   2. 230 volts, single phase, 60 Hz.
   3. 230 volts, three phase, 60 Hz.
   4. 460 volts, three phase, 60 Hz.

C. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

E. Operation and Maintenance Data.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.

B. Protect materials from exposure to moisture until ready for installation.

C. Store materials in a dry, ventilated weathertight location.

1.8 PROJECT CONDITIONS

A. Pre-Installation Conference: Convene a pre-installation conference just prior to commencement of field operations, to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Wayne Dalton; 2501 S. State Highway 121 Business, Suite 200, Lewisville, TX 75067. ASD. Phone: (800) 827-3667; Web Site: www.wayne-dalton.com. Email: info@wayne-dalton.com.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 GLAZED ALUMINUM SECTIONAL OVERHEAD DOORS

A. Glazed Sectional Overhead Doors: Wayne Dalton 451 Series Aluminum Doors. Units shall have the following characteristics:

1. Door Assembly: Stile and rail assembly of aluminum alloy 6063-T6, 1-3/8 inch thick stiles and rails, joined with self tapping screws.
    a. Rails: Top and bottom rails with 3-1/2 inches wide, lower intermediate rail 1-3/8 inches, upper rail 1-5/8 inches, minimum wall thickness 0.062 inch.
    b. Stiles: Top, bottom, and end stiles are 3-1/2 inches wide, center stile 3 inches wide, minimum wall thickness 0.062 inch.
    c. Springs:
        1) Standard cycle spring: 10,000 cycles
        2) High cycle spring: 25,000 cycles.
        3) High cycle spring: 50,000 cycles.
        4) High cycle spring: 75,000 cycles.
        5) High cycle spring: 100,000 cycles.
    d. Glazing:
        1) 1/8 inch (3 mm) Clear annealed glazing.
        2) 1/8 inch (3 mm) Acrylic (Plexiglass) glazing.
        3) 1/8 inch (3 mm) Polycarbonate (Lexan) glazing.
        4) 1/8 inch (3 mm) Gray annealed glazing.
        5) 1/8 inch (3 mm) Bronze annealed glazing.
        6) 1/8 inch (3 mm) Clear Tempered glass.
        7) 1/8 inch (3 mm) Gray Tempered glass.
        8) 1/8 inch (3 mm) Bronze Tempered glass.
        9) 1/8 inch (3 mm) Solex Green Tempered glass.
        10) 1/4 inch (6 mm) Acrylic (Plexiglass) glazing.
        11) 1/4 inch (6 mm) Polycarbonate (Lexan) glazing.
        12) 1/4 inch (6 mm) Clear Multi-Wall Polycarbonate
        13) 1/4 inch (6 mm) White Multi-Wall Polycarbonate
        14) 1/4 inch (6 mm) Bronze Multi-Wall Polycarbonate
        15) 5/8 inch (16 mm) Clear Multi-Wall Polycarbonate
        16) 5/8 inch (16 mm) White Multi-Wall Polycarbonate
        17) 5/8 inch (16 mm) Bronze Multi-Wall Polycarbonate
2. Finish and Color:
    a. Anodized Finish: Clear anodized.
    b. Anodized Finish: Bronze anodized.
    c. Anodized Finish: Black anodized.
    d. Painted finish: White.
    e. Painted finish: Brown.
    f. Powder Coating Finish: Color as selected by Architect from manufacturer's standard colors.
3. Windload Design: Provide to meet the Design/Performance requirements specified.
4. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
5. Lock:
    a. Interior mounted slide lock.
    b. Interior mounted slide lock with interlock switch for automatic operator.
    c. Keyed lock.
    d. Keyed lock with interlock switch for automatic operator.
6. Weatherstripping:
    a. Flexible bulb-type strip at bottom section.
    b. Flexible Jamb seals.

c. Flexible Header seal.

7. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
   a. Size:
      1) 2 inch (51 mm).
      2) 3 inch (76 mm).
   b. Type:
      1) Standard lift.
      2) Vertical lift.
      3) High lift.
      4) Low headroom.
      5) Follow roof slope.
   c. Horizontal track shall be reinforced with continuous angle of adequate length and gauge to minimize deflection.
   d. Vertical track shall be graduated to provide wedge type weathertight closing with continuous angle mounting for steel or wood jambs, and shall be fully adjustable to seal door at jambs.
8. Manual Operation: Pull rope.
9. Manual Operation: Chain hoist.
10. Electric Motor Operation: Provide UL listed electric operator, equal to Genie Commercial Operators, size and type as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second.
    a. Medium Duty
       1) Model MH – hoist
       2) Model MT – trolley
       3) Model MJ - jackshaft
    b. Standard Duty
       1) Model H – hoist
       2) Model T – trolley
       3) Model J – jackshaft
    c. Heavy Duty
       1) Model GH – hoist
       2) Model GT - trolley
    d. Entrapment Protection: Required for momentary contact, includes radio control operation.
       1) Pneumatic sensing edge up to 18 feet (5.5 m) wide. Constant contact only complying with UL 325/2010.
       2) Electric sensing edge monitored to meet UL 325/2010 equal to Miller Edge.
       3) Photoelectric sensors monitored to meet UL 325/2010.
    e. Operator Controls:
       1) Push-button operated control stations with open, close, and stop buttons.
       2) Key operated control stations with open, close, and stop buttons.
       3) Push-button and key operated control stations with open, close, and stop buttons.
       4) Flush mounting.
       5) Surface mounting.
       6) Interior location.
       7) Exterior location.
       8) Both interior and exterior location.
    f. Special Operation:
       1) Pull switch.
       2) Vehicle detector operation.

3) Radio control operation.
4) Card reader control.
5) Photocell operation.
6) Door timer operation.
7) Commercial light package.
8) Explosion and dust ignition proof control wiring.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until openings have been properly prepared.

B. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

C. Verify electric power is available and of correct characteristics.

D. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

B. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.

C. Anchor assembly to wall construction and building framing without distortion or stress.

D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

E. Fit and align door assembly including hardware.

F. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

G. Instruct Owner’s personnel in proper operating procedures and maintenance schedule.

3.4 ADJUSTING

A. Test for proper operation and adjust as necessary to provide proper operation without binding or distortion

B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

A. Clean doors, frames and glass using non-abrasive materials and methods recommended by manufacturer.

B. Remove labels and visible markings.

C. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

B. Protect installed products until completion of project.

END OF SECTION