



## SECTION 08360

### SECTIONAL OVERHEAD DOORS

#### 1. GENERAL

##### 1.1. SECTION INCLUDES

- A. Overhead doors.
- B. Bi-fold doors.
- C. REDD™ (Renlita Electric Direct Drive) Motor System

##### 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 16050 - Basic Electrical Materials and Methods: Installation and requirements for electrical connections.
- I. Section 16150 - Wiring Connections: Electrical service to door operator.
- J. National Electric Manufacturers Association (NEMA): NEMA ICS 4 - Industrial Control and Systems: Enclosures.

##### 1.3. REFERENCES

- A. AS1170.2:2002 - Structural Design Actions - General Principles.
- B. AS4100-1990- SAA Steel Structures Code.
- C. AS 1288 - Glass in Buildings - Selection and Installation.

- D. AA-6063-T6 - Standards for Aluminum Alloy and Temper.
- E. ASTM A500, Grade B – Steel Tubes.
- F. ASTM A1008 – Sheet Steel for Covers.
- G. ASTM A36 – Steel Bars.
- H. ASTM A36 – Sheet Steel for Tracks/Channels.

#### 1.4. 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).
  - 2. Maximum deflection of 1/300 of opening width.
- B. Single-Source Responsibility: Provide doors, tracks, motors, glass/cladding, and accessories from one manufacturer for each type of opening. 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 manuals.
- C. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, accessories and anchors, jamb details, connection details, anchorage spacing, hardware locations, and installation details.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, minimum size 3 inches (150 mm) square, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Operation and Maintenance Data.

H. Submit written agreement in manufacturer's standard form signed by manufacturer and installer agreeing to repair or replace defective doors that are warped, twisted, bowed or damaged as a result of defective product.

#### 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 and/or be a factory trained and authorized installation company.
- C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.
- D. REDD™ Motor System shall be warranted against manufacturing defects for a period of 2 years.

#### 1.7. DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer, material, and location of installation.
- B. Storage: Store materials in a dry area indoor and protected from damage and in accordance with manufacturer's instructions.
- C. Handling: Handle and lift all items carefully during installation to prevent damage and protect finishes.

#### 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.
- B. Environmental Conditions: Prior to and during installation, environmental conditions shall be in accordance with door manufacturers latest published recommendations for temperature, rain, wind, humidity, ventilation, and illumination.
- C. Opening shall be free and clear of debris, stored materials, scaffolding, and temporary walls as necessary for installers to perform the installation.

#### 1.9. WARRANTY

- A. Manufacturer warrants to the original purchaser within two years from date of ship-ping, if a product sold under this warranty proves to be defective in material or workmanship

through normal use and service according to maintenance and operations instructions, as verified by inspection by persons authorized by Full View Door Company, Full View Door Company will replace or repair (at Full View Door Company option) the defective product.

- B. Manufacturer warrants the steel frame against rust, in painted non-damaged condition for a period of two years from original purchase. This warranty does not apply to scratched, dented, damaged or corroded areas of the frame.

## 2. PRODUCTS

### 2.1. MANUFACTURERS

- A. Full View Door Company; [www.fullviewdoorcompany.com](http://www.fullviewdoorcompany.com)  
121 Main St. Sacramento, Ca95838
- B. Substitutions: Not permitted.

### 2.2. OVERHEAD DOORS

- A. Steel Framed Counterweight Balanced Overhead Doors: Single panel tubular steel framed door weather lapped at horizontal joint; balanced with counterweights under constant suspension; roller and track system fixed to building structure guides door under lintel in the open position.
  - 1. Approved Product: Canopy Tilt-Up Doors.
- B. Framework: Welded construction fabricated from rolled hollow section steel members with minimum wall thickness of 0.125 inch (3.1 mm). Beams shall be designed for maximum dead load deflection of 1/300th part of the span.
- C. Counter Balancing: Counterweight system with enclosed counterweights suspended by 7/19 flexible multi-strand steel cables with minimum safety factor of 6:1. Cable shall be guided in steel sheaves with a minimum sheave to cable diameter ratio of 19:1. Sheaves shall be capable of carrying design loads.
- D. Load is contained in the jambs and does not require a load bearing header or any additional lateral supports.
- E. Mechanical pin lock fail-safe device that prevents door movement automatically in the event of a counterbalance or lifting device failure. Safety brake shall automatically reset once repairs are completed and be capable of repeated engagement without replacement of brake or components.

- F. Construct steel door sections from carbon steel hot rolled tube complying with ASTM A-500 Grade B and ASTM A-36.
- G. Counterweight Covers: Counterweights shall be protected and covered with a re-movable pressed sheet (aluminum or steel).
- H. Manual Operation: As indicated on the Drawings and Door Schedule.
  - 1. Provide manual operating handle and safety device to be used to manually open/close the door and to be stored in operating channel when door is in open position acting as a safety device preventing accidental closure of the door.
  - 2. Door must be capable of manual operation by hand without cranks, special tools, etc.
  - 3. Door shall be equipped with keyed slide bar locking device located at lower panel adjacent to operating channel.
- I. Size:
  - 1. As indicated on Drawings.
  - 2. Height: \_\_\_\_ feet (\_\_\_\_ meters).
  - 3. Width: \_\_\_\_ feet (\_\_\_\_ meters).
- J. Locking:
  - 1. Internal slide locks, unless otherwise specified.
- K. Escape and Access Doors: Outward opening doors with night latch.

### 2.3. GLAZING AND CLADDING

- A. Glazing: Glazed in accordance with AS1288.
  - 1. Glass: 1/4 inch (6.35 mm) laminated safety glass.
  - 2. Glass: 3/8 inch (9.5 mm) laminated safety glass.
  - 3. Glass: 1 inch (25 mm) dual pane insulated glass.
  - 4. Tempered Glass: 1/8 inch (3 mm).
  - 5. Tempered Glass: 1/4 inch (6.35 mm).
  - 6. Acrylic Polycarbonate: 1/8 inch (3 mm).
  - 7. Acrylic Polycarbonate: 3/16 inch (4.76 mm).
  - 8. Acrylic Polycarbonate: 1/4 inch (6.35 mm).
  - 9. Glazing Wedges: Co-extrusions, fitted between aluminum panels.
  - 10. Glazing Beads: PVC extrusions.
- B. Panels:
  - 1. Panels: Wood.
  - 2. Panels: Plywood.
  - 3. Panels: Metal.
  - 4. Panels: Galvanized steel sheet.
  - 5. Panels: Perforated sheet metal.
  - 6. Panels: Mesh.

7. Panels: Woven wire.
8. Panels: Composite.
9. Panels: Acrylic.
10. Panels: Insulated.
11. Panels: \_\_\_\_\_.

C. Thermal Ratings / Performance

1. UL 1784, Air Leakage Tests of Door Assemblies at elevated temperature. Door to meet the criteria set forth in Section 4.3.1 of NFPA 105 with optional smoke gaskets installed.  
The maximum air leakage rate measured was found to be **1.10 cfm/ft<sup>2</sup>**

2.4. FINISHES

A. Finish, Ferrous Metals: All surfaces except working machine parts shall receive the following factory applied finish:

1. Powder coating.
2. Abrasive clean to SSP-SP6

B. Finish, Aluminum: Provide the following factory applied finish:

1. Clear anodized aluminum.
2. Powder coating.

C. Finish, Color:

1. As designated in Door Schedule
2. As selected from manufacturer's full range of available colors.
3. Custom color.
4. Manufacturer/Color:\_\_\_\_\_.

2.5. MOTORS\*\* NOTE TO SPECIFIER \*\* Delete this Article if no

motorized doors. Coordinate with Division 11 for control systems and Division 16 for electrical work.

A. Model: REDD™ (Renlita Electric Direct Drive), 1HP AC motor with 39:1 gear ratio gearbox direct mounted to 1" door drive shaft. Motor is provided with control panel (mounted separately) and is controlled by a touch screen control station, photo eyes, and hardware necessary for installation of motor and control panel.

1. Primary Speed Reduction: Worm gear-in-oil-bath reducer. Gear ratio is 39:1 with shaft speed of 34 RPM.
2. Motor Travel: Motor up and down travel is set digitally in the control panel and door position is established by integrated shaft position encoder.

3. Control Station: Touch screen control station provided as standard and is capable of being mounted into single gang electrical box (not provided by Renlita). Minimum dimensions of the electrical box are 3"x2"x2 1/2" and the box shall be square corner welded construction.
  4. Primary Entrapment Device: NEMA 4 Monitored Photo Sensors mounted maximum of 6 inches above the finished floor at each side of the door opening interior.
  5. Secondary Entrapment Device: REDD ALERT™ obstruction sensing technology. Door controls shall monitor the door operation for obstruction during the close cycle. If amperage increases above set limit, the motor shall stop and reverse direction. The sensitivity is set by a qualified installer during initial commissioning and shall be checked and adjusted annually.
- B. Temperature Rating: -15°F to 125°F
1. 100% duty cycle. Unlimited number of operations per hour.
- C. Construction:
1. Frame: 18.52" x 4.31" x 8.425"
  2. Frame Color: RAL 9005 Black
  3. Gearbox Oil Type: CLP VG680 Mineral Oil
  4. Bearings: Sealed Bearings - pre lubricated from factory
  5. Mounting: M4 - Vertical Orientation or M3 Horizontal Orientation.
  6. Power Requirements: 110 volt AC, Single Phase, 6 amps.
- D. Accessories
1. Universal Radio Receiver: Manufactured by Liftmaster™ model 850 LM.
    - a. Capable of 310 Mhz, 315 Mhz, or 390 Mhz radio transmitters with Security + 2.0 Remotes
    - b. Direct wires into Renlita REDD™ control panel. Power and controls are administered by REDD™ Control panel.
- E. Quality Control
1. Factory Tests:
    - a. Cycle each REDD™ motor head and gearbox before packaging to insure proper operation.

- b. Bench test each touch screen control panel prior to packaging for proper operation and configuration.

### 3. EXECUTION

- A. Notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions. Commencement of installation constitutes acceptance of conditions.
- B. Complete installation and wiring in accordance with Full View Door Company installation manual for REDD motor system. Ensure proper orientation for motor system in accordance with written instructions.

#### 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. Inserts and Anchorages: Furnish inserts and anchoring devices suitable for the installation of the units and consistent with the manufacturer's installation requirements. Coordinate delivery with other work to avoid delay.
- B. Install overhead doors, operating equipment, hardware, seals, stops, anchors, inserts, supports and track in accordance with approved shop drawings and the manufacturer's printed instructions.



- C. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.
- D. Anchor assembly to wall construction and building framing without distortion or stress.
- E. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
- F. Fit and align door assembly including hardware.
- G. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.
- H. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction. Test for proper operation and adjust until satisfactory results are obtained.  
Demonstrate operation to owner's personnel.

#### 3.4. CLEANING AND ADJUSTING

- A. Lubricate, test and adjust door assembly to smooth operation free from warp twist or distortion and in full contact with weather-stripping.
- B. Clean doors, frames and glass.
- C. Remove temporary labels and visible markings.

#### 3.5. PROTECTION

- A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.
- B. Protect installed products until completion of project.
- C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

#### 3.6. MAINTENANCE

- A. Post Installation Maintenance:
  - 1. Contractor and installer shall provide Owner with complete company name, address phone number, fax number and assigned contact for emergency re-pairs and scheduled maintenance for the installed door(s).
- B. Training/Instruction for Owner for Operation and System Maintenance:
  - 1. Manufacturer shall instruct Owner's representative in regular tenant provided maintenance and operation of installed doors.

END OF SECTION