
SECTION 08 36 13
SECTIONAL DOORS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Overhead sectional doors, electrically operated.
- B. Operating hardware and supports.
- C. Electrical controls.

1.2 RELATED REQUIREMENTS

- A. Section 04 20 00 - Unit Masonry: Prepared opening in masonry.
- B. Section 05 50 00 - Miscellaneous Metals: Brace framing for door tracks.
- C. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.
- D. Section 26 05 33.13 - Conduit for Electrical Systems: Conduit from electric circuit to operator and from operator to control station.
- E. Section 26 05 33.13 - Conduit for Electrical Systems: Conduit from fire alarm system.
- F. Section 26 05 33.13 - Conduit for Electrical Systems: Empty conduit from control units to door operator.
- G. Section 26 05 83 - Wiring Connections.
- H. Section 28 10 00 - Access Control: Electronic access.
- I. Section 28 46 00 - Fire Detection and Alarm: Fire alarm interconnection.
- J. Section 28 10 00 - Electronic Access Control and Intrusion Detection: Security service connection to door controller.

1.3 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2022.
- B. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength 2018a.
- C. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen 2004 (Reapproved 2012).
- D. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference 2014 (Reapproved 2021).
- E. DASMA 102 - American National Standard Specifications for Sectional Doors 2018.
- F. ITS (DIR) - Directory of Listed Products Current Edition.
- G. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts 2008 (Reaffirmed 2020).
- H. NEMA MG 1 - Motors and Generators 2021.
- I. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum) 2020.
- J. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. UL (DIR) - Online Certifications Directory Current Edition.

- L. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems Current Edition, Including All Revisions.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.
- C. Product Data: Show component construction, anchorage method, and hardware.
- D. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.
- E. Operation Data: Include normal operation, troubleshooting, and adjusting.
- F. Maintenance Data: Include data for motor and transmission, shaft and gearing, lubrication frequency, spare part sources.
- G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of type specified and with at least five years documented experience.
- C. Comply with applicable code for motor and motor control requirements.
- D. Products Requiring Electrical Connection: Listed and classified by ITS (DIR), UL (DIR), or testing firm acceptable to authorities having jurisdiction, as suitable for purpose specified.

1.6 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.
- C. Warranty: Include coverage for electric motor and transmission.
- D. Provide five year manufacturer warranty for electric operating equipment.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: _____ manufactured by Overhead Door Corporation.
- B. Other Acceptable Manufacturers - Sectional Doors:
 - 1. C.H.I. Overhead Doors: www.chiohd.com/#sle.
 - 2. Clopay Building Products: www.clopaydoor.com/#sle.
 - 3. Wayne-Dalton, a Division of Overhead Door Corporation: www.wayne-dalton.com/#sle.

2.2 STEEL DOORS

- A. Steel Doors: Flush steel, insulated; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
 - 1. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.
 - 2. Door Nominal Thickness: 2 inches thick.

3. Thermal Performance: R-value 17.40, U-value .057 (.327 W/K m²).
 4. Air Leakage Rate: Less than .08 cfm/sf when tested in accordance with ASTM E283 at test pressure difference of 1.57 psf.
 5. Exterior Finish: Factory finished with polyester baked enamel; color as selected by Architect from manufacturer's full color line to include custom colors.
 6. Interior Finish: Factory finished with polyester baked enamel; color as selected from manufacturers standard line.
 7. Electric Operation: Electric control station.
- B. Door Panels: Steel construction; outer steel sheet of 20 gage, 0.0359 inch minimum thickness, flush profile; inner steel sheet of 20 gage, 0.0359 inch minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation.

2.3 COMPONENTS

- A. Track - Lift Clearance Type: Rolled galvanized steel, 0.090 inch minimum thickness; 2 inch wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch thick. Contractor to field verify clearances required for track type specified prior to ordering.
- B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.
- C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.
- D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.
- E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.
- F. Head Weatherstripping: EPDM rubber seal, one piece full length.
- G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

2.4 MATERIALS

- A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating, plain surface.
- B. Insulation: Foamed-in-place polyurethane, bonded to facing.
- C. Metal Primer Paint: Zinc molybdate type.

2.5 ELECTRIC OPERATION

- A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
 1. Provide interlock switches on motor operated units.
- B. Electric Operators:
 1. Operator: To be supplied by door manufacturer, Basis of Design Model J (jackshaft) RHX Commercial Heavy Duty Door Operator by LiftMaster.
 2. Mounting: Side mounted on cross head shaft. Location of motor shall be coordinated with all contractors. Contractor to field verify clearance required for mounting specified prior to ordering.
 3. Motor Enclosure:
 - a. Exterior Doors: NEMA MG 1, Type 4; open drip proof.
 4. Motor Rating: 1/2 hp; continuous duty.

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5. Motor Voltage: 120 volts, three phase, 60 Hz.
 6. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
 7. Controller Enclosure: NEMA 250, Type 1.
 8. Opening Speed: 12 inches per second.
 9. Brake: Adjustable friction clutch type, activated by motor controller.
 10. Manual override in case of power failure.
 11. Refer to Section 26 05 83 for electrical connections.
- C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated; enclose terminal lugs in terminal box sized to comply with NFPA 70.
- D. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
1. 24 volt circuit.
 2. Surface mounted, at interior door jamb.
 3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
 - a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.
- E. Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.
- F. Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.
1. Manufacturers:
 - a. Miller Edge, Inc: www.MillerEdge.com/sle.
- G. Provide interconnection to security system.
- H. Coordination: Provide materials required for and coordination with respective contractors for electronic access control of sectional doors.
- I. Hand Held Transmitter: Digital control, and resettable. Provide 50 transmitters.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.
- B. Verify that electric power is available and of the correct characteristics.

3.2 PREPARATION

- A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

3.3 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions.
 - B. Anchor assembly to wall construction and building framing without distortion or stress.
 - C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
 - D. Fit and align door assembly including hardware.
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- E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.
- F. Coordinate installation with access control contractor for operating procedures in secure areas.

3.4 TOLERANCES

- A. Maximum Variation from Plumb: 1/16 inch.
- B. Maximum Variation from Level: 1/16 inch.
- C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft straight edge.
- D. Maintain dimensional tolerances and alignment with adjacent work.

3.5 ADJUSTING

- A. Adjust door assembly for smooth operation and full contact with weatherstripping.
- B. Have manufacturer's field representative present to confirm proper operation and identify adjustments to door assembly for specified operation.

3.6 CLEANING

- A. Clean doors and frames and glazing.
- B. Remove temporary labels and visible markings.

3.7 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.
- B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION 08 36 13