



**SECTION 083613
SECTIONAL DOORS
MODELS C-20, C-24, C-2400**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Upward acting sectional steel doors.

1.02 RELATED REQUIREMENTS

- A. Section << **079200 - Joint Sealants**>>: Sealing joints between frames and adjacent construction.
- B. Section << **087100 - Door Hardware**>>: Cylinder cores and keys.
- C. Section << **260533.13 - Conduit for Electrical Systems**>>: Conduit from electric circuit to operator and from operator to control station, and empty conduit from control units to door operator.
- D. Section << **260583 - Wiring Connections**>>: Power to disconnect.

1.03 DEFINITIONS

- A. DSB: Double Strength Billet.
- B. SSB: Single Strength Billet.

1.04 REFERENCE STANDARDS

- A. ITS (DIR) - Directory of Listed Products; Current Edition.
- B. UL (DIR) - Online Certifications Directory; Current Edition.
- C. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's standard literature showing materials and details of construction and finish.<< **Include data on electrical operation.**; or **None - N/A**>>
- B. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details.
- C. Manufacturer's Installation Instructions: Indicate installation sequence and installation, adjustment, and alignment procedures.
- D. Manufacturer's qualification statement.
- E. Installer's qualification statement.
- F. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.
- G. Specimen warranty.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing work of this section with minimum of << **5 years; or _____ years**>> of<< **documented; _____; or None - N/A**>> experience in fabrication and installation of security closures.
- B. Installer Qualifications: Company specializing in performing work of this section with minimum of << **3 years; or _____ years**>> of<< **documented; _____; or None - N/A**>> experience and approved by manufacturer.

1.07 WARRANTY

- A. Manufacturer Door-Only Warranty: Provide manufacturer warranty for door assembly for duration indicated under individual doors. Complete forms in <<Owner>>'s name and register with manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Wayne Dalton; www.wayne-dalton.com; 1 (800) 827-3667.
- B. Substitutions: Not permitted.

2.02 UPWARD ACTING SECTIONAL STEEL DOORS

- A. Sectional Steel Doors: Wayne Dalton; << **Model C-20; Model C-24; or Model C-2400**>>.

1. Panels: << **Steel construction with exterior sheet, interior sheet, and core reinforcement; or Steel construction with exterior sheet**>>.

2. Width: << _____ feet _____ inches (_____ m)>>.

3. Height: << _____ feet _____ inches (_____ m)>>.
4. Mounting: Surface mounted on interior of building.
5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.

7. Wind Load: Design door assembly to withstand uniform pressure of << _____ psf (_____ kPa)>>.
 - a. Impact Resistant: Yes.
8. Wind Load: Not required.

9. Impact Resistant: << **Required**; or Not required>>.
10. Operation Cycles: Capable of operating for minimum << **10,000; 25,000; 50,000; 75,000; or 100,000**>> cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
11. Available Warranty:
- a. Door Only: One year.
12. Panel Material:
- a. Exterior Steel Thickness: << **20 gauge, 0.0396 inch (1.01 mm); Nominal 24 gauge, 0.0276 inch (0.701 mm); or 24 Gauge, 0.0276 inch (0.701 mm)**>> galvanized steel.
- b. Panel Thickness: << **2 inches (51 mm)**>>.
- c. Joint Profile: Tongue and groove.
- d. Section Height: Manufacturer's standard based on door height.
- e. Insulation: << **None**; or **Polystyrene**>>.
- 1) Panel R-value (RSI-value): << **7.64 (1.35)**>>.
- 2) Interior Backer: << **Not required**; **Galvanized steel**; or **High impact polystyrene**>>.
- f. Exterior Surface Profile: << **Smooth**; **Ribbed**; or **Stucco embossed**>>.
- g. Lites: << **Not required**; **Full view lites**; **Vision lites**; or **Impact lites**>>.
- h. Exterior Finish: << **White**; or **Brown**>>.
13. Locking Options to Include: << **None**; **Slide lock**; or **Cylinder**>>.
- a. Lock Locations: << **Both jambs**; **Left only**; or **Right only**>>.
14. Weatherstripping and Seals: << **Required**; or **Not required**>>.
15. Tracks: Constructed of steel with members fully bolted together.
- a. Size: << **2 inches (51 mm)**; or **3 inches (76 mm)**>>.
- b. Finish: Mill finish.
16. End Stiles: << **16 gauge, 0.0635 inch (1.613 mm)**>> galvanized steel.
17. Intermediate Stiles: << **16 gauge, 0.0635 inch (1.613 mm)**>> galvanized steel.
18. Brackets: Steel to support counterbalance and curtain.
- a. Finish: Hot-dip galvanized.
19. Springs: Rated for << **10,000; 25,000; 50,000; 75,000; or 100,000**>> cycles.

20. Manual Operation: << **Push-up; or Chain hoist**>>.
 21. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << **6 inches (152 mm)**>>, maximum << **12 inches (305 mm)**>> per second.
 - a. Timer to Close: << **Not required; or Automatic closing controlled by adjustable hold-open time delay**>>.
 - b. Operation Supply Voltage: << **115/208/230V 1 phase 60Hz; 208/230/460V 3 phase 60Hz; 575V 3 phase 60Hz; 220V 1 phase 50Hz; 220V 3 phase 50Hz; or 400V 3 phase 50Hz**>>.
 - c. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - d. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - e. Motor Mounting: << **Wall mounted; or Trolley**>>, << **right-hand side; left-hand side; or center**>>.
 - f. Motor Enclosure: << **Not required; NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, nonventilated**>>.
 - g. Obstruction Safety Detection: Infrared sensor mounted in-plane to door curtain at << **6 inches (152 mm)**>> from floor.
 - h. Reversing Safety Edge: << **Not required; Door provided with wireless monitored electric safety edge; or Door provided with wired monitored electric safety edge**>>.
- B. Thermospan Steel Sectional Doors: Wayne Dalton; << **Model 125; Model 150; Model 592; Model 200; Model 200-20; Model 594; Model 598; or Model 850**>>.
1. Panels: Steel construction with exterior sheet, interior sheet, and core reinforcement.
 2. Width: << **feet** **inches (** **m)**>>.
 3. Height: << **feet** **inches (** **m)**>>.
 4. Mounting: Surface mounted on interior of building.
 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 7. Model 150: Air Infiltration at << **25 mph (40 km/hr)**>>: << **0.08 cfm/sq ft (1.46 cu m/hr/sq m); 0.13 cfm/sq ft (2.37 cu m/hr/sq m); 0.15 cfm/sq ft (2.74 cu m/hr/sq m); 0.21 cfm/sq ft (3.83 cu m/hr/sq m); 0.46 cfm/sq ft (8.40 cu m/hr/sq m); or 4.21 cu m/hr/sq m (** **mm)**>>.

8. Models 200 and 200-30: Air Infiltration at << **15 mph (24 km/hr)**>>: << **0.17 cfm/sq ft (3.11 cu m/hr/sq m)**>>.

9. U-Factor: << **0.12; 0.07; 0.14; 0.10; or 0.20**>>.

10. R-value (RSI-value): << **17.5 (3.08); 14.16 (2.49); 17.40 (3.09); 10.79 (1.90); or 9.31 (1.64)**>>.

11. STC Rating: << **Class 21; or Class 22**>>.

12. Operation Cycles: Capable of operating for minimum << **10,000; 25,000; 50,000; 75,000; or 100,000**>> cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
13. Available Warranty:
 - a. Door Only: One year.
14. Panel Material:
 - a. Exterior Steel Thickness: << **31-gauge, 0.012-inch (0.30 mm); 30-gauge, 0.0157-inch (0.40 mm); 22-gauge, 0.0336-inch (0.85 mm); or 21-gauge, 0.0366-inch (0.93 mm)**>> galvanized steel.

 - b. Panel Thickness: << **2 inches (51 mm); 3 inches (76 mm); 1-1/2 inches (38 mm); 7/8 inch (22 mm); or 1-3/8 inches (35 mm)**>>.
 - c. Joint Profile: Tongue and groove.
 - d. Section Height: Manufacturer's standard based on door height.

 - e. Exterior Surface Profile: << **Flush; Ribbed; Microgroove; Stucco texture; or Raised panel**>>.

- f. Lites: << **Not required; Double thermal acrylic; Aluminum sash section with double strength billet (DSB) glazing; Insulated double strength billet (DSB); Clear long lites; or Large lites**>>.

 - g. Exterior Finish: << **White; Tan; Brown; Gray; Almond; Industrial Brown; Black; Sandstone; Forest Green; Chestnut Brown; Terra Bronze; Desert Tan; Trinar White; or Trinar Brown**>>.
15. Locking Options to Include: << **None; Slide lock; or Cylinder**>>.
 - a. Lock Locations: << **Both jambs; Left only; or Right only**>>.
 16. Weatherstripping and Seals: << **Required; or Not required**>>.
 17. Tracks: Constructed of steel with members fully bolted together.
 - a. Size: << **2 inches (51 mm); or 3 inches (76 mm)**>>.
 - b. Finish: Mill finish.

 18. End Stiles: << **17-gauge, 0.0575-inch (1.46 mm); 14-gauge, 0.0785-inch (1.99 mm); 21-gauge, 0.0366-inch (0.93 mm); single 16-gauge, 0.0635-inch (1.613 mm); or double 16-gauge, 0.0635-inch (1.613 mm)**>> galvanized steel.
 19. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: Hot-dip galvanized.
 20. Springs: Rated for << **10,000; 25,000; 50,000; 75,000; or 100,000**>> cycles.

 21. Manual Operation: << **Push-up; or Chain hoist**>>.
 22. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << **6 inches (152 mm)**>> per second, maximum << **12 inches (305 mm)**>> per second.
 - a. Timer to Close: << **Not required; or Automatic closing controlled by adjustable hold-open time delay**>>.
 - b. Operation Supply Voltage: << **115/208/230V 1 phase 60Hz; 208/230/460V 3 phase 60Hz; 575V 3 phase 60Hz; 220V 1 phase 50Hz; 220V 3 phase 50Hz; or 400V 3 phase 50Hz**>>.
 - c. Signaling Device: << **Horn and strobe combination; or Traffic warning light**>>.
 - d. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
 - e. Motor Mounting: << **Wall mounted; or Trolley**>>, << **right-hand side; left-hand side; or center**>>.
 - f. Motor Enclosure: << **Not required; NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, nonventilated**>>.
 - g. Obstruction Safety Detection: Infrared sensor mounted in-plane to door curtain at << **6 inches (152 mm)**>> from floor.
 - h. Reversing Safety Edge: << **Not required; Door provided with wireless monitored electric safety edge; or Door provided with wired monitored electric safety edge**>>.

- C. ThermoMark Insulated Steel Sectional Doors: Wayne Dalton; << **Model 5150; Model 5155; Model 5200; Model 5255; or Model 530**>>.
1. Panels: Steel construction with exterior sheet, interior sheet, and core reinforcement.

 2. Width: << feet inches (m)>>.

 3. Height: << feet inches (mm)>>.
 4. Mounting: Surface mounted on interior of building.
 5. Opening Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.
 6. Closing Speed: Door to operate at variable speed of << **6 to 12 inches (152 to 305 mm)**>> per second.

 7. Air Infiltration at << **15 mph (24 km/hr)**>>: << **0.23 cfm/sq ft (4.20 cu m/hr/sq m)**; **0.21 cfm/sq ft (3.84 cu m/hr/sq m)**; or **0.07 cfm/sq ft (1.28 cu m/hr/sq m)**>>.

 8. U-Factor: << **0.07; 0.12; or 0.15**>>.

 9. R-value (RSI-value): << **12.12 (2.13)**; **16.22 (2.85)**; or **26 (4.58)**>>.

 10. STC Rating: << **Not Required**; **20**; or **22**>>.

 11. Operation Cycles: Capable of operating for minimum << **10,000; 25,000; 50,000; 75,000; or 100,000**>> cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
 12. Available Warranty:
 - a. Door Only: Ten years against delamination and cracking, splitting, or deterioration due to rust-through.
 13. Panel Material:
 - a. Exterior Steel Thickness: << **30-gauge, 0.0157-inch (0.398 mm)**>> galvanized steel.

- b. Panel Thickness: << **1-3/8 inches (35 mm)**; **1-7/8 inches (48 mm)**; or **3 inches (76 mm)**>>.
 - c. Joint Profile: Tongue and groove.
 - d. Section Height: Manufacturer's standard based on door height.
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- e. Exterior Surface Profile: << **Embossed wood grain**; **Stucco embossed pinstripe**; or **Stucco embossed**>>.
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- f. Panel Profile: << **Standard**; **V5 panel**; **Long panel**; **Flush panel**; or **V10 panel**>>.
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- g. Lites: << **Not required**; **Residential lites**; **Thermolite**; **Full view lites**; **Bubble lites**; or _____>>.
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- h. Exterior Finish: << **White**; **Almond**; **Taupe**; **Brown**; **Terra Bronze**; **Black**; **Golden Oak**; **Walnut**; **Mission Oak**; **White textured finish**; **Almond textured finish**; **Taupe textured finish**; **Brown textured finish**; or **Black textured finish**>>.
- 14. Locking Options to Include: << **None**; **Slide lock**; or **Cylinder**>>.
 - a. Lock Locations: << **Both jambs**; **Left only**; or **Right only**>>.
 - 15. Weatherstripping and Seals: << **Required**; or **Not required**>>.
 - 16. Tracks: Constructed of steel with members fully bolted together.
 - a. Size: << **2 inches (51 mm)**; or **3 inches (76 mm)**>>.
 - b. Finish: Mill finish.
 - 17. End Stiles: << **16-gauge, 0.0635-inch (1.613 mm)**>> galvanized steel.
 - 18. Intermediate Stiles: << **16-gauge, 0.0635-inch (1.613 mm)**>> galvanized steel.
 - 19. Brackets: Steel to support counterbalance and curtain.
 - a. Finish: Hot-dip galvanized.
 - 20. Springs: Rated for << **10,000**; **25,000**; **50,000**; **75,000**; or **100,000**>> cycles.
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- 21. Manual Operation: << **Push-up**; or **Chain hoist**>>.
 - 22. Motor Operation: Provide UL-listed electric operator; size as recommended by manufacturer to move door in either direction at minimum << **6 inches (152 mm)**>>, maximum << **12 inches (305 mm)**>> per second.

- a. Timer to Close: << **Not required**; or **Automatic closing controlled by adjustable hold-open time delay**>>.
- b. Operation Supply Voltage: << **115/208/230V 1 phase 60Hz; 208/230/460V 3 phase 60Hz; 575V 3 phase 60Hz; 220V 1 phase 50Hz; 220V 3 phase 50Hz; or 400V 3 phase 50Hz**>>.
- c. Signaling Device: << **Horn and strobe combination**; or **Traffic warning light**>>.
- d. Actuation Device: Provide << **push button; key switch; pull cord; loop detector; motion detector; treadle switch; and radio control**>>.
- e. Motor Mounting: << **Wall mounted**; or **Trolley**>>, << **right-hand side; left-hand side; or center**>>.
- f. Motor Enclosure: << **Not required**; **NEMA 4-12 watertight and oiltight; NEMA 4X corrosion-resistant; Totally enclosed, fan-cooled motor; or Totally enclosed, nonventilated**>>.
- g. Obstruction Safety Detection: Infrared sensor mounted in-plane to door curtain at << **6 inches (152 mm)**>> from floor.
- h. Reversing Safety Edge: << **Not required**; **Door provided with wireless monitored electric safety edge; or Door provided with wired monitored electric safety edge**>>.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.
- B. Verify electric power is available and meets manufacturer's requirements.

3.02 PREPARATION

- A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.
- B. Apply primer to wood frame.

3.03 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.
- E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.
- F. Install << **perimeter trim; closures; and _____**>>.

3.04 TOLERANCES

- A. Maximum Variation from Plumb: << **1/16 inch (1.5 mm); or ____ inch (____ mm)**>>.
- B. Maximum Variation from Level: << **1/16 inch (1.5 mm); or ____ inch (____ mm)**>>.
- C. Longitudinal or Diagonal Warp: Plus or minus << **1/8 inch in 10 feet (3 mm in 3 m); or _____ inch in 10 feet (____ mm in 3 m)**>> straight edge.

- D. Maintain dimensional tolerances and alignment with adjacent work.

3.05 ADJUSTING

- A. Adjust door assembly for smooth operation and full contact with weatherstripping.
- B. Confirm operation is in accordance with manufacturer's instructions with present field representative. Identify adjustments to door assembly.

3.06 CLEANING

- A. See Section << **017000 - Execution and Closeout Requirements**>> for additional requirements.
- B. Clean doors and frames<< **and glazing;** ____; or **None - N/A**>>.
- C. Remove<< **temporary;** ____; or **None - N/A**>> labels and visible markings.

3.07 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