

**The Genuine. The Original.**



**SECTION 083613  
INSULATED STEEL-BACK SECTIONAL DOORS  
MODEL 470**

**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**>>: Lock cylinders.
- 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**>>.

**1.03 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.

**1.04 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. Installer's qualification statement.
- E. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.
- F. Specimen warranty.

**1.05 WARRANTY**

- A. Manufacturer Warranty: Provide manufacturer warranty for counterbalance shaft assembly for years indicated under individual doors. Complete forms in <<**Owner**>>'s name and register with manufacturer.

## PART 2 PRODUCTS

### 2.01 MANUFACTURER

- A. Overhead Door Corporation; www.overheaddoor.com; 1 (800) 929-3667.
- B. Substitutions: Not permitted.

### 2.02 UPWARD ACTING SECTIONAL STEEL DOORS

- A. Insulated Steel-Back Sectional Doors: Overhead Door Corporation; Model 470.
  - 1. Panels: Steel construction with exterior sheet, interior sheet, and core reinforcement.
  - 2. Width: <<        **feet**        **inches (**        **m)**>>.
  - 3. Height: <<        **feet**        **inch (**        **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)**>>.
  - 8. Wind Load: Not required.
  - 9. 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.
  - 10. Available Warranty:
    - a. Door Only: One year.
  - 11. Panel Material:
    - a. Exterior Steel Thickness: << **25 gauge, 0.018 inch (0.46 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: Bonded polystyrene.
  - 1) Panel R-value (RSI-value): << **9.83 (1.73)**>>.
  - 2) Interior Backer: Painted galvanized steel, << **30 gauge, 0.011 inch (0.28 mm)**>>.
- f. Exterior Surface Profile: Ribbed.
- g. Lites: << **Not required**; **Double thermal acrylic**; **Insulated double strength billet (DSB)**; **Clear short**; or **Clear long**>>.
  
- h. Exterior Finish: << **White**; **Almond**; **Brown**; **Sandstone**; or **Desert Tan**>>.
- 12. Locking Options to Include: << **None**; **Slide lock**; or **Cylinder**>>.
  - a. Lock Locations: << **Both jambs**; **Left only**; or **Right only**>>.
- 13. Weatherstripping and Seals: << **Required**; or **Not required**>>.
- 14. Tracks: Constructed of steel with members fully bolted together.
  - a. Finish: Galvanized steel.
- 15. End Stiles: << **20 gauge, 0.032 inch (0.81 mm)**>> galvanized steel.
- 16. Brackets: Steel to support counterbalance and curtain.
  - a. Finish: Hot-dip galvanized.
- 17. Springs: Rated for << **10,000**; **25,000**; **50,000**; **75,000**; or **100,000**>> cycles.
  
- 18. Manual Operation: << **Push-up**; or **Chain hoist**>>.
- 19. 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, non-ventilated**>>.
  - 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**>>.

## 2.03 UPWARD ACTING SECTIONAL ALUMINUM DOORS

A. Aluminum Sectional Doors: Overhead Door Corporation; << **Model 511**; **Model 521**; or **Model 522**>>.

1. Panels: Aluminum construction and reinforcement.
  
2. Width: <<       feet      inches (      m)>>.
  
3. Height: <<       feet      inch (      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. U-Factor: << **Not required**; 0.30; or 0.28>>.
  
8. R-value (RSI-value): << **2.60 (0.46)**; 2.75 (0.48); 2.87 (0.51); 2.93 (0.52); 3.17 (0.56); 3.21 (0.57); 3.43 (0.60); 3.48 (0.61); or 4.09 (0.72)>>.
  
9. 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.
10. Available Warranty:
  - a. Door Only: One year.
11. Panel Material: Extruded 6063-T6 aluminum.
  - a. Panel Thickness: << **1-3/8 inches (35 mm)**; or **1-3/4 inches (45 mm)**>>.
  
  - b. Joint Profile: << **Tongue and groove**; or **Shiplap**>>.
  - c. Section Height: Manufacturer's standard based on door height.

- d. Glazing: << **Not required**; 1/8 inch (3 mm) DSB glass; 1/8 inch (3 mm) tempered DSB glass; 1/4 inch (6 mm) tempered DSB glass; 1/8 inch (3 mm) acrylic; 1/4 inch (6 mm) acrylic; 1/8 inch (3 mm) clear polycarbonate; 1/4 inch (6 mm) clear polycarbonate; 1/4 inch (6 mm) wired glass; 1/2 inch (13 mm) DSB glass; 1/2 inch (13 mm) tempered DSB glass; 1/2 inch (13 mm) acrylic; 1/2 inch (13 mm) polycarbonate; 1/4 inch (6 mm) opaque white; 1/4 inch (6 mm) opaque black; 1/4 inch (6 mm) mirrored gray; 1/4 inch (6 mm) mirrored bronze; or 1/4 inch (6 mm) translucent black>>.
- e. Exterior Finish: << **Clear anodized**; Light bronze anodized; Medium bronze anodized; Dark bronze anodized; Black anodized; or Powder coat; color: \_\_\_\_\_>>.
- 12. Locking Options to Include: << **None**; Slide lock; or Cylinder>>.
  - a. Lock Locations: << **Both jambs**; Left only; or Right only>>.
- 13. Weatherstripping and Seals: << **Required**; or Not required>>.
- 14. Tracks: Constructed of steel with members fully bolted together.
  - a. Size: << **2 inches (51 mm)**; or 3 inches (76 mm)>>.
  - b. Finish: Galvanized steel.
- 15. Brackets: Steel to support counterbalance and curtain.
  - a. Finish: Hot-dip galvanized.
- 16. Springs: Rated for << **10,000**; 25,000; 50,000; 75,000; or 100,000>> cycles.
- 17. Manual Operation: << **Push-up**; or Chain hoist>>.
- 18. 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, non-ventilated>>.

- 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. Aluminum Sectional Doors: Overhead Door Corporation; Model 521S.

1. Panels: Aluminum construction and reinforcement.
  
2. Width: <<        **feet**        **inches (**        **m)**>>.
  
3. Height: <<        **feet**        **inch (**        **m)**>>.
4. Mounting: Surface mounted on interior of building.
5. Opening Speed: Door to operate at speed of << **15.7 inches (399 mm)**>> per second.
6. Closing Speed: Door to operate at speed of << **10.4 inches (264 mm)**>> per second.
  
7. U-Factor: << **0.30; or 0.28**>>.
  
8. R-value (RSI-value): << **2.60 (0.46); 2.75 (0.48); 2.87 (0.51); 2.93 (0.52); 3.17 (0.56); 3.21 (0.57); 3.43 (0.60); 3.48 (0.61); or 4.09 (0.72)**>>.
  
9. Operation Cycles: Capable of operating for minimum 300,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.
10. Available Warranty:
  - a. Door Only: One year.
11. Panel Material: Extruded 6063-T6 aluminum.
  - a. Panel Thickness: << **1-3/4 inches (45 mm)**>>.
  - b. Joint Profile: Shiplap.
  - c. Section Height: Manufacturer's standard based on door height.
  
  - d. Glazing: << **Not required; 1/8 inch (3 mm) DSB glass; 1/8 inch (3 mm) tempered DSB glass; 1/4 inch (6 mm) tempered DSB glass; 1/8 inch (3**

mm) acrylic; 1/4 inch (6 mm) acrylic; 1/8 inch (3 mm) clear polycarbonate; 1/4 inch (6 mm) clear polycarbonate; 1/4 inch (6 mm) wired glass; 1/2 inch (13 mm) DSB glass; 1/2 inch (13 mm) tempered DSB glass; 1/2 inch (13 mm) acrylic; or 1/2 inch (13 mm) polycarbonate>>.

- e. Exterior Finish: << **Clear anodized; Light bronze anodized; Medium bronze anodized; Dark bronze anodized; Black anodized; or Powder coat; color: \_\_\_\_\_**>>.
- 12. Locking Options to Include: << **None; Slide lock; or Cylinder**>>.
  - a. Lock Locations: << **Both jambs; Left only; or Right only**>>.
- 13. Weatherstripping and Seals: << **Required; or Not required**>>.
- 14. Tracks: Constructed of steel with members fully bolted together.
  - a. Size: << **2 inches (51 mm); or 3 inches (76 mm)**>>.
  - b. Finish: Galvanized steel.
- 15. Brackets: Steel to support counterbalance and curtain.
  - a. Finish: Hot-dip galvanized.
- 16. Manual Operation: Chain Hoist.
- 17. Motor Operation: Provide UL-listed direct drive, integrated gear motor and brake 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. Provide operator and drive assembly with all wiring harnesses needed from manufacturer.
  - a. Timer to Close: Automatic closing controlled by adjustable hold-open time delay.
  - b. Operation Supply Voltage: << **208V 1 phase 60 Hz, 190 to 207V range; 208V 3 phase 60 Hz, 190 to 207V range; 230V 1 phase 60 Hz, 208 to 245V range; 230V 3 phase 60 Hz, 208 to 245V range; 460V 3 phase 60 Hz, 456 to 495V range; or 575V 3 phase 60 Hz**>>.
  - c. Control Panel: << **Medium BTR Control; or Full BTR Control**>> Electronic controller with microprocessor self-diagnostics. Digital readout indicates door action, alarm conditions and fault conditions.
  - d. Signaling Device: << **Horn and strobe combination; Traffic warning light; or LED Lights**>>.
  - e. Actuation Device: Provide << **push button; key switch; vehicle detection; loop detector; motion detector; treadle switch; radio control; door timer; and photocell operation**>>.
  - f. Motor Mounting: Shaft mount.
  - g. Obstruction Safety Detection:
    - 1) Primary, Monitored:
      - (a) Safety Edge: << **Wireless electric sensing edge; or 2-wire sensing edge**>> complying with <<UL 325>>, 2010 edition.
    - 2) Secondary, Non-Monitored:
      - (a) Photoelectric Sensors: << **Reflective; Dual; or \_\_\_\_\_**>>.

## **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**