

**SECTION 10 22 26.35**  
**ELECTRICALLY OPERATED FOLDING PANEL PARTITIONS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Requirements for electrically operated folding panel partition work including safety devices as indicated on Drawings and as specified herein.

**1.02 SUSTAINABILITY REQUIREMENTS**

- A. Sustainability requirements included in the Section are as follows:
  - 1. Composite wood products used contain no added urea-formaldehyde resins.
  - 2. Adhesives used contain no urea-formaldehyde resins.
- B. The Contractor shall implement practices and procedures to meet the Project's sustainable requirements. The Contractor shall ensure that the requirements related to these goals, as defined in Specification Section S01352, Sustainability Requirements, and as specified in this Section, are implemented to the fullest extent. Substitutions or other changes to the work shall not be proposed by the Contractor or their sub-contractors if such changes compromise the stated Sustainable Design Performance Criteria.

**1.03 REFERENCE STANDARDS**

- A. References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.
- B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.
- C. ASTM E557 - Standard Guide for Architectural Design and Installation Practices for Sound Isolation between Spaces Separated by Operable Partitions; 2012.
- D. NEMA MG 1 - Motors and Generators; 2014.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

**1.04 SUBMITTALS**

- A. Product Data
  - 1. Brochures of partition and all safety devices.
- B. Shop Drawings
  - 1. Complete plans, elevations and large scale details of construction including jamb, head sections, cross section of folding partition, head and floor seal and interlock suspension. Indicate attachments to other construction.
  - 2. Calculations: Calculate requirements for supporting operable panel partitions and verify capacity of carriers and track components to support loads; indicate deflection limits for partition and related construction. Calculations shall be prepared, signed and sealed by a Professional Engineer registered in New York State.
  - 3. Safety Devices including wiring diagrams
  - 4. Electric operating mechanism and wiring diagram.
  - 5. Template drawings showing location of hanging rods.
- C. Samples
  - 1. Hardwood veneer or plastic laminate on Medium or High density fiberboard representative of quality to be provided in finished work.
- D. Certificates
  - 1. Sound Transmission Class rating of STC 50 or better as tested in accordance with ASTM E90.

- E. Maintenance Data
  - 1. Panel face finishes and finishes for exposed trim and accessories. Include precautions for cleaning materials and methods that could be detrimental to finishes and performance.
  - 2. Seals, hardware, track, carriers, and other operating components
  - 3. Safety Devices and Equipment
  - 4. Instructional Video
- F. Warranty
  - 1. Manufacturer's 5-year written Warranty
- G. Low Emitting Materials Compliance Submittals
  - 1. Provide documentation for adhesive to be used on site, indicating that the adhesives comply with low V.O.C. requirements as stated in Specification Section G01600.
- H. Sustainability Submittals
  - 1. Provide documentation for each composite wood product used, indicating that they contain no added urea-formaldehyde resins. Documentation must include statement of what resins are used in the manufacturing process.
  - 2. Provide documentation for each laminating adhesive used, indicating that they contain no urea-formaldehyde resins. Documentation must include statement of what resin are used in each adhesive.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturer
  - 1. Minimum of five (5) years of successful experience in manufacture of product of type specified.
- B. Installer
  - 1. Minimum of three (3) years of successful experience in installation of product of type specified.
- C. Regulatory Requirements
  - 1. New York City Building Code: Construction to achieve a flame-spread rating required under Sections 27-347 27-348 of the 1968 Building code and FC 802 of the 2014 NYC Fire Code.
  - 2. Electrical Code of the City of New York.
- D. All plywood, composite wood products and laminating adhesives used shall contain no added urea-formaldehyde.

#### **1.06 DELIVERY, STORAGE AND HANDLING**

- A. Deliver, store, and handle product as recommended by manufacturer to protect from damage.

#### **1.07 WARRANTY**

- A. Manufacturer's Warranty
  - 1. 5-year written, against defects in materials and workmanship.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. Manufacturers providing electrically operated partitions:
  - 1. Hufcor. Inc., Janesville, WI 53545
  - 2. Panelfold, Inc., Miami, FL 33168.
  - 3. Kwik-Wall Company, Springfield, IL 62703
  - 4. Modernfold, Inc., Greenfield IN 46140
  - 5. Advanced Equipment Corp. Fullerton, CA 92833

## 2.02 FOLDING PANEL PARTITION

- A. Type: Top supported, continuously hinged and electrically operated. Panels must provide wall to wall contact. Operable wall system that does not extend to the back of storage pocket is not acceptable.
- B. Nominal thickness: Minimum 3".
- C. Partition Panels: Provide odd number of sections with a maximum section width of 48".
  - 1. Panel Frames: Minimum 18 GA Galvanized steel with horizontal and vertical stiffeners.
  - 2. Face Panels: 1/2" thick fiberboard or 1/4" thick fiberboard bonded to 18 GA steel sheet. Medium or High density fiberboard must be Class "A" to meet ASTM E84 requirements.
  - 3. Face Veneer:
    - a. Plain sawn first quality red oak (commercial thickness); For areas where birch woodwork is used, provide face veneer of clear White Birch. Match color and grain at veneer joints of each section, or
    - b. Plastic laminate.
  - 4. Acoustical substrate construction to achieve an STC rating of minimum 50.
  - 5. Panel weight: Maximum 10.2 lbs/sf
  - 6. Trimless vertical astragals with non-removable soft vinyl bulb seals.
  - 7. Partition manufacturer's standard butt hinges.
  - 8. Pass door shall be of same construction as panels, shall have flushcup and drop handles and shall be ADA compliant.
  - 9. Field applied adhesives shall comply with Specification Section G01600 low V.O.C requirements.
  - 10. Fiberboard shall be made with binder containing no added urea formaldehyde. Laminating adhesives used on site and in the shop shall contain no added urea formaldehyde.
- D. Suspension
  - 1. Track
    - a. 7 gauge steel track, complete with integral soffits, guide rails, and positive track joint alignment system.
    - b. Track suspended by minimum 3/8" diameter adjustable steel hanger (drop) rods provided by manufacturer. Provide sway bracing when drop exceeds 16".
    - c. Drop rods fastened to adjustable steel track brackets, drilled to accept track mounting bolts.
    - d. Provide continuous channel, integral in track, to accommodate receivers for track mounting bolts.
    - e. Provide continuous top seals hanging from track.
    - f. Panels shall be top supported by 4 wheeled carrier.
  - 2. Trolley
    - a. 4 wheeled consisting of Steel tired ball bearing wheels.
    - b. Pendant bolts shall be stressed steel with combination lock/adjustment feature.
- E. Jamb Sections
  - 1. Channels matching track and trim.
  - 2. Full-height Non-removable vinyl bulb sound seals.
  - 3. Sound baffles inside each jamb.
- F. Seals and Closures
  - 1. Vertical Seals Between Panels: Tongue and groove astragals creating an acoustical interlock.
  - 2. Horizontal Seals:
    - a. Top seals shall be twin-finger continuous vinyl contact type
    - b. Bottom seals: Floating operable, with minimum 2" nominal clearance with rubber or vinyl contact seals.

3. Partition Closure: Seals shall provide continuous floor contact as panels are positioned without need for tools or cranks. Each section shall be self-compensating for any unevenness of floor or deflection of support.  
Stacking end of partition shall be full height dual seal, automatically closed by motor drive.
  4. Manually operated pocket doors with standard butt hinges shall be provided.  
Construction, finish and appearance of pocket doors shall match panel construction.  
Pocket doors shall have limit switches that do not allow partition to be activated unless the pocket doors are completely open.
- G. Electrical Operating Mechanism
1. Electric operator shall be of proper horsepower to provide for operation of folding partitions.
  2. Operating mechanism shall include cable or chain drive, electric gearhead motor, limit switches and necessary equipment.
  3. The electrical device controlling the operation of the partition shall be capable of being reversed at any point in the stack travel cycle.
  4. Power control, conduits to controls, and wiring are provided under Division 16 - Electrical.
- H. Safety Features for Electrically Operated Partitions:
1. Two safety key switches: Locate one on each side of the partition, one at the stack end and one opposite the stack end of the partition, both with full view of that side of the partition as it opens or closes. A constant contact tamper proof button, activated by the key, shall be required to operate each switch. The switches shall be wired in series. Simultaneous operation of both switches shall be required to operate the partition.
    - a. Signs:
      - 1) Provide a warning sign regarding the safe and proper operation and supervision of the electrical device operating the partition adjacent to each key activated safety switch securely fastened to the wall 5'-0" above the finished floor.
  2. Safety Edge: Leading edge of lead panel shall be equipped with safety edge which shall automatically stop operable wall in the event that its movement is obstructed in closing cycle. This safety edge shall be continuous (full height). Actuation force shall be 10 pounds.
  3. Stack Area Safety Sensor Mat:
    - a. Provide pressure sensitive safety mat to cover entire stack area which shall automatically stop operable wall in the event that a weight three (3) lbs or more is detected in the area covered by the mat.
  4. Infra-red or Microwave Safety Detection System:
    - a. The safety system shall create an infrared or Microwave barrier on each side of the entire operating part of the partition so that the partition will immediately stop when an obstacle enters the path of travel. When an obstruction is detected, the partition shall automatically stop, regardless of the direction in which the partition is traveling, and an alarm shall sound. To restart the partition, the system must be manually restarted by use of the two safety key switches specified in Par. 1 above.

## **2.03 FASCIAS AND SOFFITS**

- A. Fascias shall match surrounding walls. Soffits shall match adjacent ceiling or shall be finished as indicated on drawings.

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

- A. Check openings scheduled to receive folding partitions for incorrect dimensions, lack of squareness, out of plumb, and lack of preparation. Partition installer to verify that rough opening has been prepared in accordance with ASTM E557.
- B. The Folding Panel Partition manufacturer and installer shall verify that the steel beam flanges are of adequate width to receive the folding partition threaded rods.

- C. Do not commence installation of folding partitions until openings conform to specification requirements.

### **3.02 INSTALLATION**

- A. Level tracks and fasten securely to header as recommended by manufacturer.

### **3.03 ADJUSTING**

- A. Adjust and leave partitions in smooth operating condition without indication of binding.
  - 1. Test and adjust seals, hardware, carriers, tracks, pass doors, operators, controls, safety devices, and other operable components. Replace damaged or malfunctioning operable components.

### **3.04 DEMONSTRATION AND TRAINING**

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.
  - 1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, servicing, and maintaining equipment and schedules.
  - 2. Review data in maintenance manuals.
  - 3. Schedule training with the Authority, with at least seven days advance notice.
- B. Provide an instructional video of the operation and safety features

**END OF SECTION**