

SECTION 10 22 27: OPERABLE PANEL PARTITIONS

PART 1 GENERAL

1.01 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

- A. ASTM E 413 – Classification for Rating Sound Insulation
- B. ASTM E 557 – Standard Guide for the Installation of Operable Partitions
- C. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- D. ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- E. Carpet and Rug Institute:
 - 1. CRI Green Label Plus Testing Program.
- F. Green Seal:
 - 1. GS-36 - Aerosol Adhesives.
- G. NFPA 101 - Life Safety Code
- H. South Coast Air Quality Management District:
 - 1. SCAQMD Rule 1168 - Adhesive and Sealant Applications.

1.02 GENERAL REQUIREMENTS

- A. The Contractor shall supply and install manual operation, acoustical operable partitions, factory finished, supported from overhead track without floor guides, as shown on the drawings including all hardware, seals, track and rollers as needed to close the specified opening. This operable partition specification covers wall panel accordion partitions.
- B. Manual Operation: The manual operation shall be accomplished with less than 20 lbf force to start movement at the rate of 3.33 ft/s (200 ft/min). A removable handle shall be used to extend and retract the bottom operable seals; vertical movement of seals shall be 1 inch. Closure to the lead wall shall be by use of a flexible bulb; final closing shall be accomplished by means of a lever exerting pressure against wall.

1.03 SUSTAINABLE DESIGN SUBMITTALS

- A. Section 01 81 13 – Green Procurement: Requirements for sustainable design submittals.
- B. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.
 - 1. Materials Resources Certificates:
 - a. Certify source and origin for salvaged and reused products.
 - b. Certify recycled material content for recycled content products.
 - c. Certify source for regional materials and distance from Project site.
 - 2. Indoor Air Quality Certificates:
 - a. Certify volatile organic compound content for each interior adhesive and sealant and related primer.
 - b. Certify volatile organic compound content for each interior paint and coating.
 - c. Certify volatile organic compound content for each flooring system.
- C. Product Cost Data: Submit cost of products to verify compliance with Project sustainable design requirements. Exclude cost of labor and equipment to install products.
 - 1. Provide cost data for the following products:
 - a. Salvaged, refurbished, and reused products.
 - b. Products with recycled material content.
 - c. Regional products.

1.04 SUBMITTALS

- A. The following shall be submitted in accordance with Section 01 33 00 SUBMITTALS:
- B. Shop Drawings: Drawings containing complete schematic diagrams and details required to demonstrate that the system has been coordinated and will properly function as a unit. Drawings shall show dimensions and weight of stacked partition; layout of the work, track and jamb fastening methods; seal details and installation details; proposed layout and anchorage of equipment and appurtenances, and equipment relationship to other parts of the work including clearances for maintenance and operation.
 - 1. Installation
 - 2. Layouts
- C. Product Data: Manufacturer's descriptive data, performance charts, catalog cuts, and installation instructions for framework, suspension system, covering, and accessories.
 - 1. Operable Partitions
- D. Samples: Three Color samples of specified surfaces and finishes to match those specified. Finish and color requirements shall not be limited to manufacturer's standard selections in order to meet these requirements
 - 1. Operable Partitions
- E. Test Reports: Reports on laboratory acoustical requirements and acoustical test. Reports on flame and smoke development tests.
 - 1. Acoustical Test
 - 2. Flame and Smoke Development Tests
- F. Certificates: Certificate attesting that the materials meet the requirements specified and that partitions have specified acoustical and flame retardant properties, as determined by test.
 - 1. Materials
 - 2. Operable Partitions
- G. Operation and Maintenance Data: Six complete copies of maintenance instructions explaining routine maintenance procedures including inspection, adjustments, lubrication, and cleaning. The instructions shall list possible breakdown, methods of repair, and a troubleshooting guide.
 - 1. Operable Partitions

1.05 DELIVERY AND STORAGE

- A. Materials shall be delivered to the jobsite in the manufacturer's original, unopened, and undamaged packages with labels legible and intact. Provide labels to indicate the manufacturer, brand name, size, finish, and placement location. Store partitions and accessories in unopened packages in a manner that will prevent damage. Handle partition materials in accordance with manufacturer's instructions. Materials shall be protected from the weather, humidity and temperature variations, dirt and dust, or other contaminants.

1.06 WARRANTY

- A. Manufacturer's standard performance guarantees or warranties that extend beyond a 1 year period shall be provided. In addition, the pantographs, trolleys and tracks shall be guaranteed for 10 years from date of acceptance for beneficial use.

PART 2 PRODUCTS**2.01 SUSTAINABILITY CHARACTERISTICS**

- A. Section 01 81 13 – Green Procurement: Requirements for sustainable design compliance.
- B. Materials and Resources Characteristics:
 - 1. Recycled Content Materials: Furnish materials with maximum available recycled content.
 - 2. Regional Materials: Furnish materials extracted, processed, and manufactured within 500 miles (800 km) of Project site.
- C. Indoor Environmental Quality Characteristics:
 - 1. Interior Adhesives: Maximum volatile organic compound content in accordance with SCAQMD Rule 1168.

2. Interior Aerosol Adhesives: Maximum volatile organic compound content in accordance with GS-36.
3. Interior Sealants and Sealant Primers: Maximum volatile organic compound content in accordance with SCAQMD Rule 1168.
4. Interior Carpet: Maximum volatile organic compound content in accordance with CRI Green Label Plus Testing Program.

2.02 MATERIALS

- A. Material and equipment shall be the standard products of a manufacturer regularly engaged in the manufacture of such products and shall essentially duplicate items that have been in satisfactory use for at least 2 year prior to bid opening. Equipment shall be supported by a service organization that is, in the opinion of the Contracting Officer, reasonably convenient to the site. Provide heavy-duty type hardware standard with the manufacturer. Provide pulls and latches for all partitions. Provide partitions with foot bolts. Hardware shall be anodized aluminum bronze finish.

2.03 OPERABLE WALL PANEL PARTITIONS

- A. Operable wall panel partitions shall consist of top hung ball bearing carriers which support modular panels.
 1. Provide partitions made up of a series of rigid panels, each panel being a one-piece assembly. Unless otherwise specified, the wall shall comprise the least number of panels. The mechanical seal of the panel shall actuate with a single operating action.
 2. Provide panels paired center stacked continuously hinged type as indicated.
- B. Panels: Provide panels of steel skin, laminated to appropriate structural acoustical backing, mounted in full perimeter protective frame. Steel for the panel frames shall be a minimum of 18 gauge thick steel with minimum 22 gauge thick face panels spot welded to the frame. Frame shall enclose and protect all edges of the surface material. Panels shall be not more than 4 feet wide, except for end closure panels, and shall be full height to track. Panels shall lock in place to form a stable, rigid partition; low profile hinges shall project 1/4 inch maximum from panel edge. Panel surfacing shall wrap around the vertical panel edges without vertical trim.
- C. Finish Covering: Finish material shall be minimum 54 inches wide, vertically-ribbed acoustical material of 100 percent polyolefin. Fabric shall be stain-resistant, shall not mildew, rot or support growth of bacteria and shall be non-allergenic.
- D. Track: Track shall be recessed as shown and shall be of extruded aluminum or enamel finish steel. Track shall be manufacturer's standard product designed for the weight of the finished partition, including door. Track sections shall be provided in the maximum lengths practicable, not less than 6 feet long except for narrow doors and at ends of runs where short length is required. Suitable joint devices such as interlocking keys shall be provided at each joint to provide permanent alignment of track.
- E. Suspension System: Provide a suspension system consisting of steel or heavy duty extruded aluminum track connected to the structural support by threaded rods, and trolleys designed to support the weight of the partition. Provide steel track of 7 gage minimum, phosphate treated or painted. Provide extruded aluminum track with minimum thickness of 1/8 inch. Provide center hung panel with 1 trolley with four ball bearing nylon or steel tired wheels per panel.

2.04 ACCESSORIES

- A. Ceiling Guards: Furnish partitions with ceiling guards or integral track and ceiling guards as recommended by the manufacturer.

2.05 SEALS AND SWEEPSTRIPS

- A. Provide perimeter seals or sound insulation, of manufacturer's standard product, to achieve the sound transmission class specified and to pass the visual field test specified, without crack or craze when subjected to severe usage. Provide mechanical bottom seal that can be raised or lowered for positive control. Provide manufacturer's vertical seals between panels to ensure acoustical rating. Bottom seals shall consist of a vinyl sweep mechanical seal which will expand in place or shall be accomplished by using panels which can be lowered by a removable operating device. Vertical seal between panels shall be anodized, architectural grade, aluminum extrusion with vinyl sound seal. Sweep strips shall be vinyl or other material which will not crack or craze with severe usage. Sweep strip shall control STC to the specified rating.

2.06 PERFORMANCE REQUIREMENTS

- A. Fire Endurance: For partitions more than 60 square feet in area, provide covering and lining with flame spread rating of 25 or less, fuel contribution rating of 15 or less, smoke generation of 50 or less in accordance with NFPA 101 when tested in accordance with ASTM E 84. The Contractor shall submit flame and smoke development tests reports. Door and partition finishes shall have a Class A rating when tested in accordance with ASTM E 84.
- B. Laboratory Acoustical Requirements: Partitions shall have been tested in accordance with ASTM E 90 by a laboratory accredited by the U.S. Bureau of Standards and have attained a sound transmission class (STC) of not less than 49 in a fully extended position, with a Noise Reduction Coefficient (NRC) of 0.25-0.30 for napped, tufted or looped fabric. Partition tested shall be of the same construction, materials, and model number as the partition to be provided and shall be fully operable. Test specimen shall be not less than 126 square feet in area. Panel weight shall be a minimum of 5.5 psf for STC up to 40, 7.5 psf for STC up to 45, and 8.5 psf for STC up to 50, 10.0 psf for STC up to 53. Panel thickness (4 inch nominal) and composition shall be designed to provide the required STC rating in accordance with ASTM E 90 and ASTM E 413.

2.07 COLOR

- A. Color shall be selected from manufacturers standard colors. Color listed is not intended to limit selection of equal colors from other manufacturers.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Installation shall be in accordance with the manufacturer's approved instructions.
- B. Preparation Work: Check openings scheduled to receive operable partitions for correct dimensions. Install partitions in accordance with the approved partition layouts, manufacturer's directions, and ASTM E 557. Structural support for the track support elements shall be as indicated.
- C. Adjustment: Adjust manually operated partitions to open and close from any position with a maximum horizontal force as specified in paragraph Manual Operation applied to pendant pull, box or handle.

3.02 FIELD TESTS

- A. Operational Test: In the presence of the Contracting Officer, operate partition at least three times to demonstrate that partition is capable of being moved from the stored position to the fully extended position smoothly and quietly. Activate mechanical seals top and bottom. Adjust partitions which do not operate properly and retest.
- B. Visual Test: Conduct visual field tests for light leakage with all room lights turned on in the space on one side of the partition. Darken space on the other side of the partition. There shall be no light leakage from the lighted space to the darkened space. If light leakage does occur, adjust the partition to correct the problem and retest.

3.03 CLEANING

- A. Clean any soiled parts of the partition in accordance with manufacturer's printed instructions.

END OF SECTION