SECTION 102226 - OPERABLE PARTITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Manually operated, acoustical panel partitions.
2. Manually operated, telescoping, acrylic panel, sliding partitions.

B. Related Sections:

1. Base Building Project Manual Division 05 Section "Metal Fabrications" for supports that attach supporting tracks to overhead structural system.
2. Division 07 Section “Thermal Insulation” for sound proofing soffit above operable partition’s ceiling track.
3. Division 09 Sections "Non-Structural Metal Framing Gypsum Board" for soffit construction above the manually operated partition ceiling tracks.

1.3 DEFINITIONS

A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities."

B. STC: Sound Transmission Class.

1.4 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design operable panel partitions to be supported from base building structure provided. Engage qualified professional structural engineer to detail suspension system and to reinforce, as necessary, existing structural steel components from which operable panel partition tracks are to be suspended.

B. Acoustical Performance: Provide operable panel partitions tested by a qualified testing agency for the following acoustical properties according to test methods indicated:

1. Sound-Transmission Requirements: Operable panel partition assembly tested for laboratory sound-transmission loss performance according to ASTM E 90, determined by ASTM E 413, and rated for not less than the STC indicated.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, numbered panel installation sequence, and attachments to other work.

1. For installed products, include structural analysis data for attachments, signed and sealed by the qualified professional engineer responsible for their preparation.
2. Indicate storage and operating clearances. Indicate location and installation requirements for hardware and track, blocking, and direction of travel.
3. Information required under "Proof of Coordination" listed below.
4. Setting Details: For embedded items and cutouts required in other work, including support-beam, mounting-hole template.

C. Samples for Initial Selection: For each type of exposed material, finish, covering, or facing indicated.

1. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For each type of exposed material, finish, covering, or facing indicated, prepared on Samples of size indicated below:

1. Textile: Full width by not less than 36-inch- (914-mm-) long section of fabric from dye lot to be used for the Work, with specified treatments applied. Show complete pattern repeat.
2. Panel Edge Material: Not less than 3 inches (75 mm) long.

E. Proof of Coordination: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Suspended ceiling components.
2. Structural members to which suspension systems will be attached.
3. Size and location of initial access modules for acoustical tile.
4. Items penetrating finished ceiling, including the following:

    a. Lighting fixtures.
    b. HVAC ductwork, outlets, and inlets.
    c. Speakers.
    d. Sprinklers.
    e. Smoke detectors.
    f. Access panels.
    g. All other appurtenances potentially interfacing with operable panel partition track assemblies.

F. Qualification Data: For qualified Installer, and testing agency.

G. Product Certificates: For each type of operable panel partition, from manufacturer.

H. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each operable panel partition.

I. Field quality-control reports.

J. Operation and Maintenance Data: For operable panel partitions to include in maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:

1. Panel finish facings 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.

K. Warranty: Sample of special warranty.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Testing Agency Qualifications: Qualified according to Division 01 Section "Quality Requirements" for testing indicated.

C. Fire-Test-Response Characteristics: Provide panels with finishes meeting one of the following as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: As determined by testing per ASTM E 84.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

D. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protectively package and sequence panels in order for installation. Clearly mark packages and panels with numbering system used on Shop Drawings. Do not use permanent markings on panels.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of operable panel partition openings by field measurements before fabrication.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of operable panel partitions that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Faulty operation of operable panel partitions.
b. Deterioration of fabric, metal finishes, and other materials beyond normal wear.

2. Warranty Period: Two years from date of Substantial Completion.

1.10 EXTRA MATERIALS

A. Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Panel Finish-Facing Material: Furnish full width in quantity to cover both sides of four panels when installed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Frame: Steel sheet, 0.0598 inch (1.5 mm) nominal minimum thickness for uncoated steel.

B. Aluminum: Clear anodized, architectural grade, extruded aluminum alloy 6063-T6 and temper recommended by aluminum producer and finisher for type of use, corrosion resistance, and finish indicated; ASTM B 221 (ASTM B 221M) for extrusions; manufacturer's standard strengths and thicknesses for type of use.

C. Gypsum Board Acoustical Substrate: ASTM C 36/C 36M.

2.2 MANUALLY OPERABLE ACOUSTICAL PANEL PARTITIONS

A. Operable Acoustical Panels: Operable acoustical panel partition system, including panels, seals, finish facing, suspension system, operators, and accessories.

1. Basis-of-Design Product: Subject to compliance with requirements, provide 630 Series Panel Partitions by Hufcor, Inc., or comparable product by one of the following:

    a. Advanced Equipment Corporation.
    b. Curtition, Inc.
    c. FolDoor; Holcomb & Hoke Mfg. Co., Inc.
    d. KWIK-WALL Company.
    e. Moderco Inc.
    f. Modernfold, Inc.; a DORMA Group Company.
    g. Panelfold Inc.

B. Panel Operation: Manually operated, paired panels.

C. Panel Construction: Provide top reinforcement as required to support panel from suspension components and provide reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.

D. Dimensions: Fabricate operable acoustical panel partitions to form an assembled system of dimensions indicated and verified by field measurements.

1. Panel Width: Standard widths with panels equaling each other to greatest extent possible.

E. STC: Not less than 51.

F. Panel Weight: 12 lb/sq. ft. (59 kg/sq. m) maximum.

G. Panel Thickness: Not less than 3 inches (75 mm).

H. Panel Closure:

1. Initial Closure: Flexible, resilient PVC, bulb-shaped acoustical seal.
2. Final Closure: Constant-force, lever-operated mechanical closure expanding from panel edge to create a constant-pressure acoustical seal.

I. Hardware: Manufacturer's standard as required to operate operable panel partition and accessories; with decorative, protective finish.

1. Hinges: Concealed (invisible).
2. Exit Device: Rim panic device with lever latchset on pull side.

2.3 MANUALLY OPERABLE, TELESCOPING, ACRYLIC PANEL, SLIDING PARTITONS

A. Operable Acrylic Panels: Operable wood-framed, acrylic panel partition system, including panels, suspension system, operators, and accessories.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Sliding Wall System SW3, without floor track, by Raydoor, Inc.

B. Panel Operation: Manually operated, telescoping.

C. Panel Configuration: 3-panel.

D. Panel Construction: Manufacturer's standard glazed panels, reinforced as required to support panel from suspension components and with reinforcement for hardware attachment. Fabricate panels with tight hairline joints and concealed fasteners. Fabricate panels so finished in-place partition is rigid; level; plumb; aligned, with tight joints and uniform appearance; and free of bow, warp, twist, deformation, and surface and finish irregularities.

1. Panel Type: Manufacture’s Model 225 with 3 inch (7.6 cm) wide wood stiles and rails and core acrylic layer visible along all edges.

2. Factory-Glazed Fabrication: Glaze operable acrylic panels in the factory where practical and possible for applications indicated. Comply with manufacturer's written requirements and with requirements in Division 08 Section "Glazing."

a. Glazing Core Option: Manufacturer’s clear frosted acrylic, ¼ inch (6.35 mm) thick.

E. Dimensions: Fabricate operable glass panel partitions to form an assembled system of dimensions indicated and verified by field measurements.

1. Panel Width: Standard widths.

F. Panel Frame Thickness: Maximum 2-1/4 inches (5.7 cm).

G. Panel Closure: Manufacturer's standard.

H. Hardware: Manufacturer's model 40/b overhead track and coordinated hardware and accessories required to operate operable telescoping panel partitions; with decorative, protective finish.

I. Finishes:

1. Exposed Metal: As selected by Architect from manufacturer's full range.

2. Wood Finish: As selected by Architect from manufacturer's full range, as follows:

   a. Type: [**Transparent finish**] [**Transparent finish over stain**] <**Insert finish**> over wood variety indicated.

2.4 ACOUSTCAL PARTITION SEALS

A. General: Provide types of seals indicated that produce operable panel partitions complying with acoustical performance requirements and the following:

1. Manufacturer's standard seals.
2. Seals made from materials and in profiles that minimize sound leakage.
3. Seals fitting tight at contact surfaces and sealing continuously between adjacent panels and between operable panel partition perimeter and adjacent surfaces, when operable panel partition is extended and closed.

B. Horizontal Top Seals:

1. Continuous-contact, extruded-PVC, four-finger fixed sweep seal exerting uniform constant pressure on track.

C. Horizontal Bottom Seals: PVC-faced, mechanical, retractable, constant-force-contact seal exerting uniform constant pressure on floor when extended, ensuring horizontal and vertical sealing and resisting panel movement.

1. Mechanically Operated for Acoustical Panels: Extension and retraction of bottom seal by operating handle or built-in operating mechanism, with operating range not less than 2 inches (50 mm) between retracted seal and floor finish.
2. Continuous-contact, extruded PVC, four-finger fixed sweep seals, mounted to face panels, exerting uniform constant pressure on floor surface.

2.5 FINISH FACING

A. General: Provide finish facings for panels that comply with indicated fire-test-response characteristics and that are factory applied to operable panel partitions with appropriate backing, using mildew-resistant nonstaining adhesive as recommended by facing manufacturer's written instructions.

1. Apply one-piece, seamless facings free of air bubbles, wrinkles, blisters, and other defects, with edges tightly butted, and with invisible seams complying with Shop Drawings for location, and with no gaps or overlaps. Horizontal seams are not permitted. Tightly secure and conceal raw and selvage edges of facing for finished appearance.
2. Where facings with directional or repeating patterns or directional weave are indicated, mark facing top and attach facing in same direction.
3. Color/Pattern: As selected by Architect from manufacturer's full range.

B. Fabric Wall Covering: 100 percent polyolefin woven fabric, from same dye lot, treated to resist stains.

C. Cap-Trimmed Edges: Protective perimeter-edge trim with tight hairline joints concealing edges of panel and finish facing, finished as follows:

1. Steel, Painted: As selected by Architect from manufacturer's full range of colors.

2.6 SUSPENSION SYSTEMS

A. Suspension Tracks: Steel or aluminum with adjustable steel hanger rods for overhead support, designed for type of operation, size, and weight of operable panel partition indicated. Size track to support partition operation and storage without damage to suspension system, operable panel partitions, or adjacent construction. Limit track deflection to no more than 0.10 inch (2.54 mm) between bracket supports. Provide a continuous system of track sections and accessories to accommodate configuration and layout indicated for partition operation and storage.

1. Panel Guide: Aluminum; Type 40 clear anodized.
2. Head Closure Trim: As required for acoustical performance; of same clear anodized aluminum as panel guide.

B. Carriers: Four-wheel carrier trolley system as required for configuration type, size, and weight of partition and for easy operation; with hardened ball-bearings encased in molded polymer tires.

1. (OPTIONAL – IN LIEU OF SWITCHES DESCRIBED UNDER C.1 BELOW) Multidirectional Carriers: Capable of negotiating 90-degree L, T, and X intersections without track switches.

C. Track Intersections, Switches, and Accessories: As required for type of operation, storage, track configuration, and layout indicated for operable panel partitions, and compatible with partition assembly specified. Fabricate track intersections and switches from steel or aluminum.
1. Multidirectional Switches: Adjustable switch configuring track into L, T, or X intersections and allowing panels to be moved in all pass-through, 90-degree change, and cross-over travel direction combinations.
2. Center carrier stop.

D. Aluminum Finish: Architectural Class II, clear anodic, AA-M12C22A31; 0.010 mm or thicker.

E. Steel Finish: Manufacturer's standard, factory-applied, corrosion-resistant, protective coating unless otherwise indicated.

2.7 ACCESSORIES

A. Pass Doors: Fabricated to comply with recommendations in ICC/ANSI A117.1 the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility

Guidelines. Swinging door built into and matching panel materials, construction, acoustical qualities, finish, and thickness, complete with frames and operating hardware. Hinges finished to match other exposed hardware.

1. Single Pass Door: 36 by 80 inches (914 by 2032 mm), with the following:

    a. Door Seals: Sweep floor seals In conjunction with mechanically operated floor seal on panels containing pass doors.
    b. Panic exit device.
    c. Concealed door closer.
    d. Exit Sign: Recessed, self-illuminated.
    e. Latchset: to function with panic exit device.

B. Storage Pocket Pair of Doors: Manufacturer's Type 3: Full height leaves at jambs of storage pocket (i.e., closet) swing outwards to conceal stacked partition stored in pocket, as well as to allow operable partition to extend to the back wall of the pocket for optimum acoustics. In latter mode, pocket doors close and seal up against fully drawn operable partition to conceal pocket either side of drawn partition. One leaf is secured in closed position by friction while other leaf is held in place with internal retractable operating mechanism. When partition is fully retracted and stacked within its pocket, hinged narrow flipper panel mounted on one of leaves closes off the center slot completely concealing pocket.

1. Fabricate pocket doors to match operable panels in terms of materials, construction, finish, thickness, and acoustical qualities; complete with operating hardware and acoustical seals at soffit, floor, and jambs. Finish of hinges to match other exposed hardware.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine flooring, structural support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable panel partitions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with ASTM E 557 except as otherwise required by operable panel partition manufacturer's written installation instructions.

B. Install operable panel partitions and accessories after other finishing operations, including painting, have been completed.

C. Install panels from marked packages in numbered sequence indicated on Shop Drawings.

D. Broken, cracked, chipped, deformed, or unmatched panels are not acceptable.

E. Broken, cracked, deformed, or unmatched gasketing or gasketing with gaps at butted ends is not acceptable.

3.3 ADJUSTING

A. Adjust operable panel partitions to operate smoothly, without warping or binding. Lubricate hardware, and other moving parts.

B. Adjust pass doors and storage pocket doors to operate smoothly and easily, without binding or warping. Check and readjust operating hardware. Confirm that latches and locks engage accurately and securely without forcing or binding.

3.4 FIELD QUALITY CONTROL

A. Light-Leakage Test: Illuminate one side of partition installation and observe vertical joints and top and bottom seals for voids; adjust partitions for acceptable fit.

B. NIC Testing: Engage a qualified testing agency to perform tests and inspections.

C. Testing Methodology: Perform testing of installed operable panel partition for noise isolation according to ASTM E 336, determined by ASTM E 413, and rated for not less than NIC indicated. Adjust and fit partitions to comply with NIC test method requirements.

D. Testing Extent: Testing agency shall randomly select two operable panel partition installation(s) for testing.

E. Repair or replace operable panel partitions that do not comply with requirements.

F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of repaired, replaced, or additional work with specified requirements.

G. Prepare test and inspection reports.

3.5 CLEANING

A. Clean soiled surfaces of operable panel partitions to remove dust, loose fibers, fingerprints, adhesives, and other foreign materials according to manufacturer's written instructions.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain operable panel partitions.

END OF SECTION 102226