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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
NASA-10655 (April 2005)  
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SECTION 10655

ACCORDION-FOLDING PARTITIONS  
04/05

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NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This section covers accordion-folding partitions used to divide spaces.

Accordion partitions are folding partitions with independent covers enclosing a dead-air space and separated by an internal mechanism operating laterally across the face of the opening to a stack or closed position. Do not confuse accordion partitions with serpentine folding partitions which contain no internal operating mechanism or dead-air space between independent covers.

Folding partitions may be a sight barrier (noninsulated), or sound barrier (with sound liner), or both. Accordion-folding partitions have fabric covers which are joined to reflect a pantographic movement of the door surfaces when the door is either manually or electrically operated.

This section does not include folding or operable walls and partitions whose rigid panels are individually moved or hinged along their vertical edges to fold in serpentine fashion.

Associated work found in other sections includes:

Steel supporting members or hanger rods, Section 05500, "Metal Fabrications."

Wood blocking, rough bucks, and headers, Section 06100, "Rough Carpentry."

Wood trim, wood or hardboard ceiling guard, or soffits, Section 06200, "Finish Carpentry."

Lock cylinders, Section 08711, "Hanging Hardware."

Operator field connections to power sources and inner connection to control switches, Division 16,

"Electrical."

Drawings must include:

Accordion-folding partition locations, sizes, and stack area

Head conditions indicating height, track anchorage, track channel, and jamb conditions

A schedule of partitions by type, sizes, and stack space and identified by mark number or letter

Drawing details must make clear that ceilings are independently suspended, not supported by ceiling guards.

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PART 1 GENERAL

1.1 REFERENCES

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NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.

\*\*\*\*\*

The publications listed below form a part of this section to the extent referenced:

ASTM INTERNATIONAL (ASTM)

ASTM E 84 (2005) Standard Test Method for Surface Burning Characteristics of Building Materials

ASTM E 90 (2004) Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01330, "Submittal Procedures," and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

\*\*\*\*\*

The following shall be submitted in accordance with Section 01330, "Submittal Procedures," in sufficient detail to show full compliance with the specification:

#### SD-02 Shop Drawings

Fabrication Drawings shall be submitted in accordance with paragraph entitled, "General Information," of this section.

Installation drawings shall be submitted for the following items in accordance with paragraph entitled, "Installation," of this section.

- Accordion-Folding Partitions
- Suspension System
- Finish Hardware
- Jamb Panels
- Electric Operator
- Accessories

#### SD-03 Product Data

Manufacturer's catalog data shall be submitted for the following items:

- Accordion-Folding Partitions
- Suspension System
- Finish Hardware
- Sound Seals
- Ceiling Guard
- Meeting Posts
- Jamb Panels
- Switches
- Rolling Post
- Pull-In Latch
- Electric Operator

#### SD-04 Samples

Samples of the following shall be submitted in accordance with paragraph entitled, "Product Information," of this section.

- Fabric
- Track
- Switches
- Trolley Assemblies

#### SD-07 Certificates

Certificates shall be submitted in accordance with paragraph entitled, "General Information," of this section.

### 1.3 DELIVERY, HANDLING, AND STORAGE

Material shall be delivered in the manufacturer's original, unopened, and undamaged packages with labels legible and intact. Labels shall indicate the manufacturer, brand name, size, finish, and location. Folding partitions and accessories shall be stored in unopened packages in a manner that will prevent damage from the environment and from construction operations. Partition materials shall be handled in accordance with the manufacturer's instructions.

Damaged items shall be replaced at the Contractor's expense.

1.4 FIELD MEASUREMENTS

Field measurements shall be taken prior to the preparation of drawings and fabrication to ensure proper fits.

1.5 GENERAL INFORMATION

Fabrication Drawings shall be submitted for Accordion-Folding Partitions consisting of fabrication and assembly details to be performed in the factory.

Certificates for accordion-folding partitions shall be submitted showing the following:

\*\*\*\*\*

NOTE: Delete any of the following paragraphs that are not applicable.

Include the following paragraph only for special requirements of the standard over-1-year guarantee, ordinarily 2 years.

\*\*\*\*\*

Certificates indicating complete independent laboratory test results signed by a laboratory official, including ASTM test, size of opening, and weight of partition, and fire-retardation and sound-retardation of partitions.

Certification that materials meet the requirements of regulatory agencies and that fire-hazard classification of materials complies with local regulatory agencies.

Installers shall have a minimum [2] [\_\_\_\_\_] years experience installing folding partitions and accessories. Personnel working pursuant to this section, may at the Contracting Officer's option, be required to demonstrate technical competence by performing sample work [and/or by displaying their state qualifications/certificates], at no additional cost to the Government.

Partitions will be free of defects in materials, fabrication, finish, and installation and that they will remain so for a period of not less than [\_\_\_\_\_] years after completion.

PART 2 PRODUCTS

2.1 FINISH

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NOTE: For the following paragraph, select the weight from the manufacturer's standard. Cover weights of some manufacturers include backing liners and usually range from 30 ounces to 48 ounces 850 grams to 1360 grams. When liners are included in cover weights, the range may exceed 300 ounces 8500 grams.

\*\*\*\*\*

Weight of partition fabric (ounce per linear yard) (gram per linear meter) shall be as indicated.

\*\*\*\*\*

NOTE: Vinyl fabric can be supported or unsupported.

In its unsupported form, it is uncontrollable for expansion and contraction and may be easily punctured, ripped, or torn. To stabilize the vinyl, it is preferable to laminate liquid vinyl to a fabric backing such as jute, cotton drill, oznaburg, or other type of woven material. When this fabric is again laminated to remain stable, it will usually resist the tendency to develop wrinkles as a result of expansion or contraction. Only supported vinyl is used on quality partitions.

Include the following paragraph if supported fabric is desired.

\*\*\*\*\*

Partition shall consist of liquid vinyl laminated to a fabric backing.

\*\*\*\*\*

NOTE: If supported vinyl is not used, select one of the following or add a paragraph, as required.

\*\*\*\*\*

Accordion-Folding Partitions shall be [wood veneer] [high-pressure plastic laminate] [vinyl laminate].

Partition width shall be [6] [8] [54] inches [150] [200] [1350] millimeter.

Weight, color, and texture of partitions shall conform to the approved sample.

\*\*\*\*\*

NOTE: Flame-spread class A rating 0 to 25 is generally standard with accordion-folding partition covers and is normally required by code. However, revise the classification if a different local rating is required.

\*\*\*\*\*

Partitions shall have a Class A flame spread rating when tested in accordance with ASTM E 84.

\*\*\*\*\*

NOTE: The following paragraphs are applicable to the panel core of solid-panel accordion folding partitions.

Select one of the following fire-hazard classifications as required by local codes.

\*\*\*\*\*

Maximum limit of fire-hazard classification shall be Class [A] [B] [C] rating in accordance with ASTM E 84.

Flame spread, fuel-contributed, and smoke-developed limits shall comply with local code requirements.

\*\*\*\*\*  
NOTE: Indicate a rating based on predetermined design requirements for sound isolation. Verify that the STC rating is based on the same test opening. Most acoustically rated partitions are in the 35 to 45 range; however, adjust the following rating to fit the design requirements.  
\*\*\*\*\*

Minimum sound transmission classification (STC) shall be 35 in accordance with ASTM E 90 on large-scale test openings.

## 2.2 INTERIOR FRAME WORK

\*\*\*\*\*  
NOTE: Pantograph movement consists of a series of rigid links or straight arms in a parallelogram form to duplicate in the same, larger, or smaller form the action of a given point and its relationship to a fixed point to ensure symmetry of the folding action or evenness of fold. Pantographs form the skeletal system of the folding partitions and may be horizontal or vertical.  
\*\*\*\*\*

Steel members shall be arranged to provide horizontal pantograph movement.

## 2.3 SUSPENSION SYSTEM

\*\*\*\*\*  
NOTE: Track provides the overhead support of folding partitions and is structured of steel or aluminum of varying dimensions to house the carriers that support the partition. It may provide single or dual rails to accommodate the carrier system. Track structure is attached to the header to support the guide and stabilize the travel of the partition across the face of the opening.  
\*\*\*\*\*

Suspension system shall consist of approved steel or aluminum track and trolleys designed to support the weight of the partition as recommended by the manufacturer.

\*\*\*\*\*  
NOTE: Include the following paragraph if it is required for subchannels for flush acoustical-tile or plaster ceiling construction.  
\*\*\*\*\*

Subchannel shall be approved, formed, cold-rolled steel or extruded aluminum compatible with the ceiling construction intended for the project.

\*\*\*\*\*  
NOTE: Self-supported structural system consists of an overhead truss or beam with an integral track on

two end columns. It is convenient for adding folding partitions in remodeling work.

\*\*\*\*\*

Structural system shall be self-supporting.

#### 2.4 FINISH HARDWARE

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NOTE: Closure devices can be the usual mechanical draw latch with a touch bar or thumb lever, magnetic latch, and strike or cremone bolt.

\*\*\*\*\*

Pull bar, closure device, screws, and installation hardware shall be the manufacturer's approved standard for accordion-folding partitions furnished.

Finish of exposed hardware shall be as selected from the manufacturer's standard finish.

\*\*\*\*\*

NOTE: Specify those items, normally optional, which are required.

A cylinder keying mechanism is normally specified. Cylinder must be furnished by the hardware supplier.

Pendant pulls are not required for partitions under 8 feet 2500 millimeter high.

\*\*\*\*\*

Additional approved hardware shall include [Keying mechanism] [Masterkey assembly] [Pendant pull] [Tieback] [Cremone or foot-bolt assembly].

#### 2.5 SOUND SEALS

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NOTE: Sound seals are required for soundproof or lightproof partitions.

\*\*\*\*\*

Sound seals shall consist of vinyl or rubber gaskets, calking at jambs, and sweepstrips at top and bottom.

#### 2.6 CEILING GUARD

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NOTE: Include ceiling guards for sound partitions only.

A ceiling guard consists of a metal structure of varying gages fastened to a header, generally by other than the manufacturer, with flathead shingle nails forming a place in the ceiling for later reception of the track. It may be equipped with a wide lip on one or both edges flush with the ceiling to offer a surface for contact of accordion-partition sweepstrips to prevent damage to the acoustical-ceiling surface by friction of the



sweepstrips. It may be designed to relieve the friction action of the sweepstrips against the ceiling for ease of operation. It guards or preserves the ceiling.

\*\*\*\*\*

Partitions shall be furnished with ceiling guards or integral track and ceiling guards as recommended by the manufacturer.

## 2.7 MEETING POSTS

\*\*\*\*\*

NOTE: Meeting posts are furnished for multiple partition meeting points or as an intermediate meeting for two partitions.

Select one of the following for meeting posts.

\*\*\*\*\*

Meeting posts shall be furnished for multiple-partition meeting points.

Meeting posts shall be furnished for an intermediate meeting point of two partitions.

## 2.8 JAMB PANELS

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NOTE: For an accordion partition stored in a pocket where it is difficult to anchor at the rear of the pocket, a false jamb usually consisting of a vinyl-covered plywood board equipped with carriers and fastened to the anchor post is furnished. When the partition is pulled out of the pocket, the sliding jamb board moves forward until it contacts stops at the face of the pocket. If an acoustical door or partition is furnished, the sliding jamb board must be treated with an equal amount of mass, weight, and seal to equal the acoustical performance of the partition or it will represent a flanking path for the escape of sound.

Include the following paragraph for pocket-type applications.

\*\*\*\*\*

Sliding jamb panels shall be furnished to match partitions.

## 2.9 SWITCHES

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NOTE: Select one of the following for switch type. Switches are a part of the track system and consist generally of three types:

Crossover - this switch pivots a small section of track to allow folding-partition traffic to cross a given point in either direction when such directions are opposed at a 90-degree angle.

Glides - these represent a versatility in the accordion-partition track system and allow the travel of the partition to be diverted by means of curves to the left or to the right from a straight section of track.

Pivot - this switch pivots a section of track and a section of the partition at 90 degrees from the straight run, allowing for storage of the partition parallel to the wall or for use in an alternate position adjacent to or remote from the normal position of the partition.

\*\*\*\*\*

Switches shall be the [pivot] [glide] [crossover] type.

#### 2.10 ROLLING POST

\*\*\*\*\*

NOTE: A rolling post is an optional item on an accordion partition. If action is desired at both ends of the partition for latching or movement, the anchor post is substituted by a rolling post for remote storage, pivot action, alternative location use, or dual latching.

Include the following paragraph if rolling posts are desired. (Rolling posts may also be called double-end posts.)

\*\*\*\*\*

Partitions shall be furnished with rolling posts.

#### 2.11 LEAD POST AIR HOLES

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NOTE: A lead post is an integral part of the frame of any accordion partition. It houses the latching devices and lead carriers and effects a closure at the jamb when supplemented by a jamb molding. Its counterpart on the opposite end of the partition would be an anchor post used to fasten the partition to the anchor jamb. Lead post is the action end of the partition and contains the pulling devices for the operation of that partition.

\*\*\*\*\*

Lead post shall have air-release holes.

#### 2.12 PULL-IN LATCH

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NOTE: A pull-in latch may be included for partitions over 8 feet 2500 millimeter high, for closing and as a sound seal.

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Partitions shall be furnished with approved pull-in latches.

2.13 ELECTRIC OPERATOR

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NOTE: Operators are manufacturers' standard  
accessory items, and size and capacity are  
determined by the manufacturer for the weight of  
that particular partition.  
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Size of the electric operator shall be that recommended by manufacturer and shall be designed for the size and weight of the partition.

Operator shall have [cable] [chain] drive.

Electrical characteristics of the unit shall be as indicated.

2.14 PRODUCT INFORMATION

Three samples of each Fabric, not less than 12-inches 300 millimeter square, of each color, texture, and pattern shall be submitted.

Three samples of each Switches used on the project shall be submitted for approval.

Three pieces of Track, 8-inches 200 millimeter long shall be submitted.

Three of each Trolley Assemblies, including switches shall be submitted.

Approved samples may be installed in the work provided they are properly identified.

PART 3 EXECUTION

3.1 EXISTING WORK

Openings scheduled to receive accordion-folding partitions shall be checked by the Contractor for correct dimensions and squareness and shall be plumb.

Installation of folding partitions shall not start until openings conform to specification requirements.

3.2 INSTALLATION

Installation and operation of the folding partition and its hardware shall be checked for the following:

[A proper seal for sound or light when partition is closed]

[Partition does not drag or bind in its track or on the finished floor, and the clearance is as recommended by the manufacturer for the type of partition installed.]

[Proper direction of travel during operation is as indicated on the drawings]

[Proper fit, plumb, and square within the opening]

[Smooth operation; latch engages and holds the partition in an extended or closed position]

[Effectiveness of security devices]

[Proper track joints]

If the partition fails to pass inspection, defective parts shall be replaced at the Contractor's cost.

Tracks shall be level and fastened securely to the header as recommended by the manufacturer.

Partitions shall be adjusted and left in smooth operating condition without binding.

### 3.3 ACCEPTANCE PROVISIONS

#### 3.3.1 Repairing

Damaged and unacceptable portions of completed work shall be removed and replaced with new work at no additional cost to the Government.

#### 3.3.2 Cleaning

Surfaces of the work, and adjacent surfaces soiled as a result of the work, shall be cleaned in an approved manner. Equipment, surplus materials, and rubbish from the work shall be removed from the site.

-- End of Section --