
USACE / NAVFAC / AFCEA / NASA UFGS-10 22 00.00 40 (April 2006)

Preparing Activity: NASA Superseding
 NASA-10600S (December 2005)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are NOT in agreement with UMRL dated 01 April 2006

Revised throughout - changes not indicated by CHG tags

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04/06

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SECTION 10 22 00.00 40

PARTITIONS
04/06

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 broadscope section covers accordion-folding, folding, movable gypsum, metal and steel-wire mesh partitions.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's

Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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.

ALUMINUM ASSOCIATION (AA)

AA DAF-45 (2003) Designation System for Aluminum Finishes

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1 (2004) Safety Glazing Material Used in Buildings - Safety Performance Specifications and Methods of Test

ASTM INTERNATIONAL (ASTM)

ASTM A 1008/A 1008M (2005a) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardened

ASTM A 123/A 123M (2002) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A 385 (2005) Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)

ASTM A 423/A 423M (2004) Standard Specification for Seamless and Electric-Welded Low-Alloy Steel Tubes

ASTM A 526/A 526M (1990) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality

ASTM A 568/A 568M (2005) Standard Specifications for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for

ASTM A 653/A 653M (2004a) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A 924/A 924M (2004) Standard Specification for General

Requirements for Steel Sheet,
Metallic-Coated by the Hot-Dip Process

ASTM B 221	(2005) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B 221M	(2005) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]
ASTM C 1036	(2001) Standard Specification for Flat Glass
ASTM C 37/C 37M	(2001) Standard Specification for Gypsum Lath
ASTM D 2287	(1996; R 2001) Standard Specification for Non-rigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds
ASTM E 84	(2005e1) 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

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

ANSI/BHMA A156.1	(2000) Butts and Hinges
ANSI/BHMA A156.17	(2004) Self Closing Hinges & Pivots
ANSI/BHMA A156.18	(2000) Materials and Finishes
ANSI/BHMA A156.2	(2003) Bored and Preassembled Locks and Latches

STEEL DOOR INSTITUTE (SDI)

ANSI/SDI A250.8	(2003) Standard Steel Doors and Frames
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U.S. DEPARTMENT OF DEFENSE (DOD)

MS MIL-C-22750	(1992e) Coating, Epoxy, High Solids
MS MIL-P-23377	(1989f) Primer Coatings: Epoxy, Chemical and Solvent Resistant

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS AA-P-00615	(Rev B) Partitions, Office, Steel
FS CCC-C-700	(2000j) Cloth, Coated, Vinyl Coated (Artificial Leather)

1.2 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 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.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

[Fabrication Drawings](#) shall be submitted for partitions 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 Partition](#)

Folding Partition
Movable Gypsum Partition
Movable Metal Partition
Mesh Partition
Doors
Filler Panels
Posts
Glazing
Gates
Wire Mesh Window Guards

SD-03 Product Data

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

Accordion-Folding Partition
Folding Partition
Movable Gypsum Partition
Movable Metal Partition
Mesh Partition
Hinged Doors
Hardware
Service Windows
Wire Mesh Window Guards
Miscellaneous Items

SD-04 Samples

Manufacturer's Standard Color Charts shall be submitted for partitions in accordance with paragraph entitled, "General Information," of this section.

SD-07 Certificates

Certificates shall be submitted for the following items, showing conformance with the referenced standards contained in this section.

Accordion-Folding Partition
Folding Partition
Movable Gypsum Partition
Movable Metal Partition
Mesh Partition
Hinged Doors
Hardware
Service Windows
Wire Mesh Window Guards
Miscellaneous Items

SD-08 Manufacturer's Instructions

Manufacturer's Instructions shall be submitted for Partitions in accordance with paragraph entitled, "General Information," of this section.

1.3 FIELD MEASUREMENTS

Field measurements shall be taken prior to preparation of drawings and

fabrication to ensure proper fits.

1.4 GENERAL INFORMATION

Fabrication Drawings shall be submitted for partitions consisting of fabrication and assembly details to be performed in the factory.

Manufacturer's Instructions shall be submitted for partitions including special provisions required to install equipment components and system packages. Special notices shall detail impedances, hazards and safety precautions.

Manufacturer's Standard Color Charts shall be submitted indicating the manufacturer's recommended color selections and finishes.

PART 2 PRODUCTS

2.1 ACCORDION-FOLDING PARTITION

2.1.1 Finish

Partition fabric shall weigh [_____] **gram ounce**, plus or minus [_____] **gram ounce**, per linear **meter yard**. Partition shall consist of liquid vinyl laminated to fabric backing.

Partition shall be [wood veneer] [high-pressure plastic laminate] [vinyl laminate].

Partition width shall be [150] [200] [1372] **millimeter** [6] [8] [54] **inches**.

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

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

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

Minimum STC classification rating shall be 35 in accordance with **ASTM E 90** on large-scale test openings.

2.1.2 Interior Frame Work

Steel members shall be arranged to provide horizontal pantograph movement.

2.1.3 Suspension System

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.

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

Structural system shall be self-supporting.

2.1.4 Finish Hardware

Pull bar, closure device, screws, and installation hardware shall be the manufacturer's approved standard.

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

Additional approved hardware shall include keying mechanisms, masterkey assemblies, pendant pulls (for partitions over 2440 millimeter 8 feet high), tiebacks, and cremone-bolt or foot-bolt assemblies.

2.1.5 Sound Seals

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

2.1.6 Ceiling Guards

Sound partitions shall be furnished with ceiling guards or integral track and ceiling guards.

2.1.7 Meeting Posts

Meeting posts shall be furnished for [multiple-partition meeting points] [intermediate meeting points of two partitions].

2.1.8 Jamb Panels

For pocket-type applications, sliding jamb panels shall be furnished to match partitions.

2.1.9 Switches

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

2.1.10 Rolling Posts

Partitions shall be furnished with rolling posts.

2.1.11 Lead Post Air Holes

Lead Posts shall have air-release holes.

2.1.12 Pull-In Latch

Partitions shall be furnished with approved pull-in latches.

2.1.13 Electric Operator

Size of the electric operator shall be that recommended by the 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 match drawing schedules.

2.2 FOLDING PARTITION

2.2.1 Galvanized-Steel Sheet

Galvanized-steel used for fabrication of partition pantograph and metal sound insulation shall be hot-dipped, commercial-quality material conforming to [ASTM A 526/A 526M](#) with not less than [35 grams](#) [1.25 ounces](#) of zinc coating conforming to [ASTM A 653/A 653M](#) and [ASTM A 924/A 924M](#).

2.2.2 Fabric Covering

Fabric covering for partitions shall be polyvinylchloride polymer coating compound on a fiber based cloth conforming to [FS CCC-C-700](#). Partition fabric weight shall be [_____] [gram per linear meter](#) [ounces per linear yard](#).

Fiber based cloth shall be mildew-resistant treated.

Fabric covering shall be tested for compliance with [ASTM E 84](#); flame spread shall not exceed 25, fuel contributed shall not exceed 15, and smoke-developed shall not exceed 50.

2.2.3 Aluminum

Extruded aluminum materials shall be fabricated from 6063-T6 aluminum alloy in conformance with [ASTM B 221M](#) [ASTM B 221](#). Surface finish shall be in conformance with C21A41, as specified in [AA DAF-45](#).

2.2.4 Galvanized Steel Anchoring Devices and Fasteners

Galvanized-steel anchoring devices and fasteners shall be hot-dip coated after fabrication in conformance with [ASTM A 385](#) and [ASTM A 123/A 123M](#).

2.2.5 Partition Fabrication

2.2.5.1 Partition Support Frames

Partition support frames shall be fabricated of galvanized-steel components. Frames shall consist of horizontal or vertical type pantograph support hinges located at the top and bottom of the partition with intermediate pantographs located not more than [1065 millimeter](#) [42 inches](#) on center. Pantographs shall be supported and secured to each other with steel rods or plates. Partition support frame shall carry the partition weight without sag and shall allow balanced, smooth action in moving the partition from the closed or open position.

2.2.5.2 Partition Suspension System

For folding partitions less than [2440 millimeter](#) [8 feet](#) in height, suspension tracks shall be fabricated from not less than [1.311 millimeter](#) [0.0516-inch](#) thick galvanized-steel sheet or not less than [2.0 millimeter](#) [0.080-inch](#) thick extruded aluminum.

For folding partitions less than [4270 millimeter](#) [14 feet](#) in height, suspension tracks shall be fabricated from not less than [1.613 millimeter](#) [0.0635-inch](#) thick galvanized-steel sheet or not less than [2.2 millimeter](#) [0.090-inch](#) thick extruded aluminum.

For folding partitions exceeding [4270 millimeter](#) [14 feet](#) in height, suspension tracks shall be fabricated from not less than [3.132 millimeter](#)

0.1233-inch thick galvanized-steel sheet or not less than 3.17 millimeter
0.125-inch thick extruded aluminum.

Tracks shall be sized to permit smooth, low-friction operation of partition trolleys.

For folding partitions less than 2440 millimeter 8 feet in height, partition support trolleys shall consist of noiseless nylon wheels secured to steel shafts.

For folding partitions exceeding 2440 millimeter 8 feet in height, partition support trolleys shall be noiseless nylon-tread ball-bearing wheels secured to steel shafts.

Lead trolley shall be 4-wheeled with the intermediate trolleys being 4-wheeled not more than 600 millimeter 24 inches on center or 2-wheeled not more than 460 millimeter 18 inches on center.

Ceiling contact guard for forming a pocket for recessed suspension track and hard-contact surface for perimeter seals shall be fabricated from not less than 1.311 millimeter 0.0516-inch thick galvanized-steel sheet. Guard width shall not allow the sweep of the perimeter seals to make contact with the finished ceiling.

Subchannel used for forming a pocket for the recessed suspension tracks shall be fabricated from not less than 1.311 millimeter 0.0516-inch thick galvanized-steel sheet.

2.2.5.3 Partition Covering

Fabric partitions shall be fabricated, installed, and tested in accordance with ASTM E 90 to verify an STC of not less than [45] [41] [38] [31].

Partition covering shall be a single-ply vinyl-coated fabric or a laminated covering. Covering shall be secured to the partition support frame by a hidden system that will prevent sagging or separation of the covering while permitting on-site removal and repair of the fabric covering. Vertical seams in the covering shall be located in the valleys of the partition folds. Tops and bottoms of the covering shall be turned hems.

For a non-STC-rated fabric, covering shall be single-ply vinyl-coated fabric weighing not less than [1085] [814] grams per square meter [32] [24] ounces per square yard.

For an STC not less than 45, laminated coverings shall be not less than 5-ply pressure-laminated construction weighing not less than 6985 gram per square meter. 206 ounces per square yard. Outer ply of the lamination shall be a vinyl-coated fabric weighing not less than 407 gram per square meter 12 ounces per square yard.

For an STC not less than 38, laminated coverings shall be not less than 5-ply pressure-laminated construction weighing not less than 3933 gram per square meter 116 ounces per square yard. Outer ply of the lamination shall be a vinyl-coated fabric weighing not less than 407 gram per square meter 12 ounces per square yard.

For an STC not less than 31, laminated coverings shall be not less than 5-ply pressure-laminated construction weighing not less than 2034 gram per square meter 60 ounces per square yard. Outer ply of the lamination shall

be a vinyl-coated fabric weighing not less than 407 gram per square meter 12 ounces per square yard.

2.2.5.4 Fire Rating

Cores shall have the fire-resistant classification conforming to UL 155 when tested in accordance with ASTM E 84 and shall bear the UL label.

2.2.6 Perimeter Seal

Perimeter seals shall be provided for each side, top, and bottom of the folding partition. Seals shall be durable and flexible and provide continuous contact with the head and sill surfaces for a positive light and sound seal.

Seals at lead and back jamb posts shall be the manufacturer's standard male and female light and sound seals.

2.2.7 Hardware

Manually operated folding fabric partitions shall have push-pull handles on each side of the partition and a cylinder locking device.

Locking assembly shall be made up of a keyed cylinder lock, pull-in or hook latch and operating handles standard with the manufacturer and capable of receiving the specified cylinder.

Pendant pulls for partitions exceeding 3658 millimeter 12 feet in height shall be provided on lead posts. Pulls shall be secured in a manner that will not interfere with light and sound seals.

Foot bolts shall be provided and secured to the lead posts in a manner that will not interfere with light and sound seals.

2.3 MOVABLE GYPSUM PARTITION

2.3.1 Partition

Partition shall be the movable low-rail type of indicated height and thickness, consisting of laminated gypsum panels, tongue-and-groove, with fabric-backed vinyl wall covering.

Partitions shall be complete with aluminum Posts, caps, and end members.

Fabric covering shall be as selected from the manufacturer's standard vinyl wall coverings.

Aluminum finish shall be [clear anodized] [light-bronze anodized] [medium-bronze anodized] [dark-bronze anodized] [black anodized] [black enamel].

2.3.2 Partition Base

Closed base height shall be not less than 100 millimeter 4 inches nor more than 150 millimeter 6 inches. Exposed surfaces shall be smooth and free from wave, warp, or buckle. Base shall be continuous between partition posts with joints occurring at posts.

Open base height shall be not less than 100 millimeter 4 inches nor more

than 150 millimeter 6 inches.

2.4 MOVABLE METAL PARTITION

2.4.1 General

Partition shall conform to FS AA-P-00615.

Partition finish color shall be as scheduled or selected.

2.4.2 Partition Type

Type 1 shall be an open-base steel partition with an overall floor-to-top height of [_____] millimeter (inches) inches, nominal.

Type 2 shall be an closed-base steel partition with an overall floor-to-top height of [_____] millimeter (inches) inches, nominal.

Type 3 shall be an open-base steel and glazed partition with an overall floor-to-top height of [_____] millimeter (inches) inches, nominal. Partition shall consist of a [_____] millimeter (inch) inch high steel lower panel and a [_____] millimeter (inch) inch high glazed upper panel.

Type 4 shall be an closed-base steel and glazed partition with an overall floor-to-top height of [_____] millimeter (inches) inches, nominal. Partition shall consist of a [_____] millimeter (inch) inch high steel lower panel and a [_____] millimeter (inch) inch high glazed upper panel.

2.4.3 Materials

2.4.3.1 Tubing

Steel tubing shall be cold-rolled seamless or cold-rolled electric-welded tubing conforming to ASTM A 423/A 423M.

Cold rolled steel tubing shall be carbon steel of commercial quality, conforming to ASTM A 1008/A 1008M. Flatness tolerances to the stretcher-level standard shall be in accordance with ASTM A 568/A 568M.

2.4.3.2 Sound Deadening Cores

Cores shall be kraft paper, honeycomb cores with a cell size not exceeding 25 millimeter 1 inch. Kraft paper sheet stock shall weigh not less than 0.16 kilogram per square meter 0.033 pound per square foot of material. Expanded cores shall be faced on both sides with kraft paper.

2.4.3.3 Aluminum

Aluminum shall be fabricated from Type 3003 aluminum alloy in conformance with ASTM B 221M ASTM B 221. Surface shall conform to AA M31A31 as specified in AA DAF-45.

2.4.3.4 Coating System

Coating system shall be a factory-applied primer, 0.051 millimeter 2-mils thick, of epoxy-polyamide conforming to MS MIL-P-23377, followed by a 0.051 millimeter 2-mil top coat conforming to MS MIL-C-22750.

2.4.4 Partition Fabrication

2.4.4.1 Posts

Posts shall be fabricated from 44 millimeter, nominal 1-3/4-inch square steel tubing. Tubing wall thickness shall be not less than 1.65 millimeter 0.065 inch. Posts shall be fabricated for 1-, 2-, 3-, or 4-way connections.

Posts shall be equipped with a stamped, sheetmetal post cap of friction-fit design and a threaded leveling device. Cap shall secure the vertical glazing channel where glazed partitions are installed. Leveling device shall have adjustment capability of not less than 40 millimeter 1-1/2 inches without loss of post stability. Floor bearing shall be not less than 40 millimeter 1-1/2 inches diameter, rubber-faced surface.

Floor anchors for posts shall be not less than two 10 millimeter 3/8-inch flathead countersunk bolts fastened into lead expansion shields.

Trim pieces for covering leveling devices and anchors shall be fabricated from aluminum not less than 1.0 millimeter 0.040-inch thick.

2.4.4.2 Steel Panels

Panels shall be fabricated from cold-rolled stretcher-level steel face sheets pressure-laminated to sound-deadening cores with edges of formed cold-rolled steel channels. Concealed reinforcement shall be provided as required for fittings and fasteners. Surface of face sheets shall be smooth and free from wave, warp, or buckle.

Panels shall be not less than 40 millimeter 1-1/2-inches thick with face sheets not less than 0.912 millimeter 0.0359-inch thick. Panel edge framing shall be fabricated from not less than 1.519 millimeter 0.0598-inch thick sheet steel. No seams shall occur in the panel face sheets.

Filler Panels shall be scribe-cut to fit fixed vertical surfaces. Filler panels shall be cut from panels specified for normal post-to-post installation. Cut edge shall be fastened into a continuous channel secured to the wall. Channels shall be formed from cold-rolled steel sheet not less than 1.214 millimeter 0.0478-inch thick.

Panel-to-post fasteners shall be the partition manufacturer's standard fasteners with spring-loaded studs into keyhole slots or elongated hole slots onto post buttons.

2.4.4.3 Glazed Panels

Clear sheet glass shall conform to ASTM C 1036, Type I, Class 1, Quality q5 and shall be not less than 5.5 millimeter 7/32-inch nominal thickness.

Figured glass shall conform to ASTM C 1036, Type II, Class 1, Form 3, Quality q7, Finish 1. Pattern shall be as selected. Thickness shall be not less than 5.5 millimeter 7/32 inch, nominal.

Tempered glass shall conform to ANSI Z97.1 and shall bear the ANSI safety-glass marking. Glass before tempering shall conform to ASTM C 1036, Class 1, Quality q3. Glass shall be factory-cut to suit each opening prior to tempering. Edges shall be clean-cut with exposed edges eased. Thickness of tempered glass shall be 6.0 millimeter 1/4 inch, nominal.

Resilient Glazing strips shall be a nonrigid, polyvinylchloride extrusion conforming to ASTM D 2287 with a Shore A durometer hardness between 80 and 90 points. Strips shall be a channel of the size and shape required to suit the glass.

2.4.4.4 Top Channel

Channel for glazed top panels shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled steel designed to receive glazing strips. Channel shall be a friction fit to the top of the steel panel.

Channel for steel panels shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled steel designed to provide a smooth top surface. Channel shall be a friction fit to the top of the steel panel.

2.4.4.5 Glazing Jamb Channel

Channel shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled steel designed to receive the specified glazing strips. Channel shall be secured to the top of the partition post by the post cap and secured at the sill by interlocking with the steel panel top channel.

2.4.4.6 Partition Base

Closed base shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled steel. Concealed reinforcement shall be provided. Exposed surfaces shall be smooth and free from wave, warp, or buckle. Base shall be continuous between partition posts with joints occurring at posts. Base height shall be not less than 100 nor more than 150 millimeter 4 nor more than 6 inches.

Open base height shall not be less than 100 nor more than 150 millimeter 4 nor more than 6 inches.

2.4.4.7 Door

Doors shall be the commercial type, flush hollow steel, not less than 44 millimeter (1-3/4-inches) 1-3/4-inches thick, conforming to ANSI/SDI A250.8, Type I, Style 2.

Door shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled stretcher-level steel sheets, pressure-laminated to the sound-deadening core. Hardware reinforcement shall be provided, for the specified hardware. Seams shall not occur in the door face sheets. Door shall be fabricated with vision lights or louvers.

2.4.4.8 Gate

Gate shall be not less than 38 millimeter 1-1/2-inches thick and fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled stretcher-level steel sheets pressure-laminated to the sound-deadening core. Hardware reinforcement shall be provided. No seams shall occur in the gate face sheets.

Gates fabricated with glazed panels shall match height and construction as the adjacent partitions. Glazed gate-jamb channels shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled steel sheet. Jamb channels shall be designed to receive Glazing strips. Channels shall be secured to the steel gate panel.

2.4.4.9 Door Hardware

A complete set of finish hardware shall be provided for each swing door in accordance with the schedule.

Hinges shall be button-tip template-bronze or corrosion-resistant steel conforming to ANSI/BHMA A156.1. Interior reverse-bevel doors shall have hinges with nonremovable pins. Doors for metal partitions 1525 millimeter 5 feet and less in height shall have not less than two hinges. One additional hinge shall be provided for each additional 760 millimeter 30 inches in height or fraction thereof. Hinges shall be not less than 90 by 90 millimeter by 3.12 millimeter 3-1/2 by 3-1/2 inches by 0.123-inch thick.

Locksets and latchsets shall conform to ANSI/BHMA A156.2 and shall have a plain design wrought trim, Grade 1, with the function required to suit the location. Furnish, install, and maintain temporary construction cores in all locks during construction of the facility; remove the construction cores after Government acceptance.

2.4.4.10 Gate Hardware

A complete set of finish hardware shall be provided for each swing gate in accordance with the schedule.

Hinges shall be bronze spring-butt type, single-acting conforming to ANSI/BHMA A156.17, Type K21011 or K21031, not less than 150 millimeter 6-inch size. Gates shall have not less than two hinges.

2.4.4.11 Hardware Finish

Hardware shall receive a [_____] finish per ANSI/BHMA A156.18.

2.4.4.12 Shelves

Shelves and shelf brackets shall be fabricated from not less than 1.214 millimeter 0.0478-inch thick cold-rolled stretcher-level steel sheet. Shelves shall be fabricated full length without seams with not less than a 13 millimeter 1/2-inch edge face and exposed edges rolled. Mounting brackets shall secure shelves to partitions by interlocking with glazing channels. Shelves shall be reinforced on the underside so that each shelf may be capable of carrying a load of not less than 75 kilogram per meter 50 pounds per linear foot of shelf with a deflection at the center edge of the shelf not exceeding 4.763 millimeter 3/16 inch.

2.4.4.13 Partition Finishing

Steel surfaces shall be solvent-cleaned to remove contaminants detrimental to coating adhesion, treated with a metal-pretreatment phosphate coating, and finished with a baked-enamel coating system.

2.5 MESH PARTITION

2.5.1 General

Partition shall be a series of standard, modular, interchangeable units with captive hardware designed to permit interchange and rearrangement of panels, doors, gates, service windows, and corners. Components shall be readily disassembled, entirely or in part, for relocation.

Panel shall be [steel-wire mesh] [steel-wire mesh with base panel] of nominal plan dimensions.

Filler Panels shall be the manufacturer's standard sizes, matching the adjacent partition, where standard full-width panel cannot be used to fill out runs.

2.5.2 Free-Standing Partitions

Wire shall be 3.5 millimeter 10-gage steel woven into a 37.5 millimeter 1-1/2-inch diamond mesh, clinched to frames.

Vertical frames shall be 32 by 16 millimeter 1-1/4- by 5/8-inch steel C-channels with 6 millimeter 1/4-inch bolt holes 305 millimeter 12 inches on center.

Horizontal frames shall be 25 by 13 millimeter 1- by 1/2-inch steel channels.

Joints shall be mortised and tenoned.

Center reinforcing bar shall be 25 by 13 by 3 millimeter 1- by 1/2- by 1/8-inch steel channel tenoned to the side frames with wires passing through the center bar.

Top reinforcement or cap shall be a continuous 57 by 25 millimeter 2-1/4- by 1-inch steel channel with holes for 6 millimeter 1/4-inch U-bolts 711 millimeter 2 feet 4 inches maximum on center.

Corner posts shall be 32 by 32 millimeter 1-1/4 by 1-1/4-inch steel angles with 6 millimeter 1/4-inch bolt holes to match partition.

Floor sockets shall be 65 millimeter 2-1/2-inches high of high-grade cast iron with a setscrew adjustment.

Flat bar Posts shall have 6 millimeter 1/4-inch bolt holes to match the partition and shall be [_____] by [_____].

2.5.3 Sheetmetal Base Partitions

Top of the lower panel of sheetmetal base partitions shall be approximately 1067 millimeter 3 feet 6 inches above the floor line and constructed of 1.6 millimeter 16-gage formed steel sheet bolted to a frame.

2.5.4 Heavy Duty Partitions 2135 to 6095 millimeter 7 to 20-FootWide

Wire shall be 6-gage steel woven into 50 millimeter 2-inch diamond mesh and clinched into frames.

Frames shall consist of 38 by 20 millimeter 1-1/2- by 3/4-inch steel channel. Vertical frames shall have 10 millimeter 3/8-inch bolt holes 460 millimeter 18 inches on center. Joints shall be mortised and tenoned.

Center reinforcing bar shall consist of 38 by 20 millimeter 1-1/2- by 3/4-inch channel tenoned to side frames. Wires shall pass through the center bar.

Flat bar Posts shall have 10 millimeter 3/8-inch bolt holes to match

partition and shall be [_____] by [_____].

Top reinforcement or cap shall be a continuous 80 millimeter 3-inch steel channel with holes for 8 millimeter 5/16-inch U-bolts 711 millimeter 2 feet 4 inches on center, maximum.

Corner posts shall be 44 by 44 millimeter 1-3/4- by 1-3/4-inch steel angles with 10 millimeter bolt holes to match the partition.

Floor sockets shall be 65 millimeter 2-1/2-inches high and of high-grade cast iron with a setscrew adjustment.

2.5.5 Bracing

Bracing shall be designed and installed at intervals not exceeding 4.5 meter 15 feet and where required to provide lateral stability.

Bracing shall be provided by extending the structural post or equivalent member and securing it to the overhead construction.

2.5.6 Sliding Doors

Sliding Doors shall be the same construction as adjacent panels and as follows:

Frames shall be 38 by 20 millimeter 1-1/2- by 3/4-inch steel channel with 38 by 3 millimeter 1-1/2- by 1/8-inch steel flat-bar cover all around.

Each door shall have two [2-] [4-] wheel roller-bearing hangers.

Sliding doors shall have a steel box-trench and bottom-guide channel.

2.6 HINGED DOORS

Hinged doors shall be of same construction as adjacent panels and as follows:

Frames shall be 32 by 15 millimeter 1-1/4- by 1/2-inch steel channel with 32 by 3 millimeter 1-1/4- by 1/8-inch steel flat-bar cover on three sides and 35 by 20 by 3 millimeter 1-3/8- by 3/4- by 1/8-inch steel angle riveted to the lock side.

Each door shall have 1-1/2 pairs of ball-bearing butt hinges riveted to both the door and the jamb.

2.7 HARDWARE

Hardware shall be [the manufacturer's standard, as approved.] [bronze mortise lock capable of receiving the lock cylinder without modification. Lock shall be key-operated on the outside and recessed turn-knob-operated on the inside.]

2.8 SERVICE WINDOWS

Service windows shall be provided where indicated. Windows shall be slide-up type with shelf. Window openings shall be 600 millimeter 24 inches nominal width by 380 millimeter 15-inches nominal height. Window frame and wire mesh shall be the same as that specified for the partition panels.

Shelf shall be 600 millimeter 24 inches nominal width by 300 millimeter 12 inches in depth and shall be formed from 2.8 millimeter 12-gage, hot-rolled carbon steel sheet. Windows shall be provided with spring catches that lock window in the open or closed position.

2.9 WIRE MESH WINDOW GUARDS

Guards shall be fabricated from 3.4 millimeter 10-gage (0.135-inch) steel wire woven into 38 millimeter 1-1/2-inch diamond mesh clinched into the frame. Frame shall be fabricated from 25 by 13 by 3 millimeter 1- by 1/2-by 1/8-inch hot-rolled carbon steel channels with corners mitered and welded. Window guards 1525 millimeter 5 feet and over in height shall be provided with center horizontal reinforcement consisting of two 25 by 10 by 3 millimeter 1-by 3/8-by 1/8-inch hot-rolled carbon steel channels, one on each side of the wire mesh riveted together. Horizontal reinforcement shall be welded to the frame vertical members.

Subframes shall be 32 by 32 by 3 millimeter 1-1/4- by 1-1/4- by 1/8-inch hot-rolled carbon steel angles with 6 millimeter 1/4-inch diameter holes spaced not more than 300 millimeter 12 inches on center for bolting to the building construction.

Each window guard shall be provided with one pair of tamperproof hinges for window guards 1525 millimeter 5 feet and less in height and one additional hinge for each 915 millimeter 3-foot increase, or fraction thereof, in height over 1525 millimeter 5 feet. One tamperproof padlock hasp shall be provided with each hinge used.

Window guards, subframes, hardware, and fasteners shall be galvanized.

2.10 MISCELLANEOUS ITEMS

Shelves, dutch doors, counters and other required items shall be the manufacturer's standard.

2.11 FINISH

Finish shall be the manufacturer's [standard shop coat] [black enamel] [hot-dipped galvanized] [plastic finish (vinyl-clad wire, thermoplastic or thermoset polyester resin)].

PART 3 EXECUTION

3.1 INSTALLATION

Accordion-folding partition installation, operation, and hardware shall be checked for the following:

A positive seal for light and sound when partition is closed.

Partition does not drag or bind in its track or on the finished floor and the clearance meets manufacturer's recommendations.

Direction of travel during operation is as indicated on the drawings.

Fit is plumb and square within the opening.

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

Effectiveness of security devices

Aligned track joints

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.

Installation Drawings shall be submitted in accordance with this section.

3.1.1 Folding Partitions

Support frame, suspension system, partition covering perimeter seals, hardware and similar items shall be installed complete to the indicated support framing. Partitions shall be installed in accordance with approved drawings and the manufacturer's printed instructions.

Suspension system track shall be secured to the wood blocking with not less than No. 8 wood screws spaced not more than 460 millimeter 18 inches on center.

Partition jambs shall be secured to supporting walls with anchors of the types required by the following substrate construction:

Jambs shall be secured to plaster on metal lath, plaster on gypsum lath that conforms to ASTM C 37/C 37M, or gypsum-board walls with toggle bolts. Toggle bolts shall be designed for use with not less than 6 millimeter 1/4-20 screws of the length required for the wall thickness. Toggle bolt spacing shall not exceed 600 millimeter 24 inches on center. Load carrying strength shall be not less than 2670 newton 600 pounds per anchor.

Jambs shall be secured to solid masonry or concrete with lead or base expansion shields. Expansion shields shall be designed for use with not less than 6 millimeter 1/4-20 screws having a shield length of not less than 38 millimeter 1-1/2 inches. Load-carrying strength shall be not less than 2225 newton 500 pounds per anchor.

Folding fabric partitions shall be adjusted to be light-sealed; free of warp, twist and distortion. Partitions so adjusted shall be opened or closed from any position with a horizontal force not exceeding 130 newton 30 pounds.

3.1.2 Movable Gypsum Partitions

Partitions shall be installed straight, plumb and level and in accordance with the manufacturer's printed instructions.

3.1.3 Movable Metal Partitions

Partitions shall be installed straight, plumb and level.

3.1.4 Filler Panels

Continuous channels for fastening filler panels to walls shall be secured with anchors as required by the following construction:

Partition filler panels shall be secured to plaster- and gypsum-board walls with not less than 6 millimeter 1/4-inch 1/4-20 toggle bolts of the length required for the finish thickness. Load-carrying strength shall be not less than 2670 newton 600 pounds per anchor.

Partition filler panels shall be secured to masonry, clay tile, or concrete with lead or brass expansion shields. Expansion shields shall be designed for use with not less than 6 millimeter 1/4-inch 1/4-20 screws and with a shield length of not less than 38 millimeter 1-1/2 inches. Load-carrying strength shall be not less than 2225 newton 500 pounds per anchor. Fasteners shall be located so that holes for shields occur in masonry or tile joints.

3.1.1.5 Posts

Partition posts shall be secured to the floor slab by the specified anchorage devices. Leveling devices shall be readily accessible for leveling, plumbing, and tightening. Expansion shields shall have not less than a 50 millimeter 2-inch penetration into the concrete slab.

3.1.1.6 Glazing

Glass materials shall be installed as follows:

Glass shall be installed in glazing channels without binding, warping, straining, springing, or forcing.

Sheet glass shall be installed so that draw or wave distortion is horizontal.

Figured glass shall be installed so that the smooth side faces the corridor side of the partition.

3.1.1.7 Doors

Doors shall fit accurately in their respective frames within the required clearances. Hardware shall be installed and adjusted in accordance with the manufacturer's printed directions.

3.1.1.8 Gates

Gates shall fit accurately in their respective frames within the required clearances. Tops of gates shall be level with tops of partitions when the gates are in the closed position.

3.1.1.9 Steel-Wire Mesh Partitions

Partitions shall be anchored, plumb, level, and true to line with hardware adjusted for proper operation. Installation shall be in accordance with the manufacturer's printed instructions.

3.1.1.10 Wire Mesh Window Guards

Guards shall be mounted on the exterior of the window frame. Subframes shall be anchored to concrete jambs and solid masonry jambs with lead expansion shields and bolts, to wood jambs with lag bolts. Hinges and padlock hasps shall be welded to the subframes and window guard frames. Padlock hasps shall be accessible from the interior and shall be installed

on the jamb opposite the hinged jamb.

3.2 FOLDING PARTITION TESTING

Folding partitions, suspension system, and perimeter seals shall be examined and tested for general operation, with the specified pulling or pushing force and given a visual test for light seal.

Partitions that fail to meet the required tests shall be adjusted and retested until approved.

-- End of Section --