****

USACE / NAVFAC / AFCEC / NASA | **UFGS-10 21 13 (August 2020)**

Preparing Activity: USACE | **Superseding UFGS-10 21 13 (August 2017)**

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021

****

SECTION TABLE OF CONTENTS

DIVISION 10 - SPECIALTIES

SECTION 10 21 13

TOILET COMPARTMENTS

08/20

PART 1 GENERAL

1.1 REFERENCES
1.2 SUBMITTALS
1.3 CERTIFICATIONS
1.3.1 Indoor Air Quality
1.3.1.1 Laminated Plastic and Solid Phenolic Products
1.4 REGULATORY REQUIREMENTS
1.5 DELIVERY, STORAGE, AND HANDLING
1.6 WARRANTY

PART 2 PRODUCTS

2.1 SYSTEM REQUIREMENTS
2.1.1 Plastic Identification
2.2 MATERIALS
2.2.1 Painted Metal (Finish 1)
2.2.2 Stainless Steel Sheet (Finish 2)
2.2.3 Plastic Laminate Clad (Finish 3)
2.2.4 Phenolic Core (Finish 4) (Finish 4A)
2.2.5 Solid Polyethylene Panels (Finish 5)
2.2.6 Homogenous Filled Acrylic (Finish 6)
2.2.7 Sound-Deadening Cores
2.2.8 Anchoring Devices and Fasteners
2.2.9 Brackets
2.2.10 Hardware and Fittings
2.2.10.1 General Requirements
2.2.10.2 Finishes
2.2.11 Door Hardware
2.2.11.1 Hinges
2.2.11.2 Latch and Pull
2.2.11.3 Coat Hooks
2.3 PARTITION PANELS AND DOORS
2.3.1 Toilet Enclosures
2.3.2 Room Entrance Screens

2.3.3 Urinal Screens
2.4 CEILING-HUNG PARTITIONS
2.5 FLOOR-ANCHORED PARTITIONS
2.6 OVERHEAD-BRACED PARTITIONS
2.7 PILASTER SHOES
2.8 HARDWARE
2.9 COLORS AND FINISHES
2.9.1 Colors
2.9.2 Finishes
2.9.2.1 Finishes No. 1 Through No. 3
2.9.2.2 Finishes No. 4, No 4A and No. 5
2.9.2.3 Finish No. 6

PART 3 EXECUTION

3.1 PREPARATION
3.2 METAL PARTITION FABRICATION
3.3 INSTALLATION
3.4 CEILING-HUNG PARTITIONS
3.5 FLOOR-ANCHORED PARTITIONS
3.6 OVERHEAD-BRACED PARTITIONS
3.7 FINAL ADJUSTMENT
3.8 CLEANING

-- End of Section Table of Contents --

****

USACE / NAVFAC / AFCEC / NASA | **UFGS-10 21 13 (August 2020)**

Preparing Activity: USACE | **Superseding UFGS-10 21 13 (August 2017)**

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2021

****

SECTION 10 21 13

TOILET COMPARTMENTS
08/20

****

NOTE: This guide specification covers the requirements for ceiling-hung, floor anchored, and overhead-braced toilet partitions.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

****

PART 1 GENERAL

****

NOTE: Army facilities will meet the requirements of UFC 3-101-01 and will be accessible in accordance with 36 CFR 1191, Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

Partition napkin disposal, toilet-tissue dispenser, grab bars, and other similar toilet-room accessories are specified in a separate section. Coordinate partition cutouts and reinforcement as required for the specified accessories.

If ceiling-hung toilet partitions are required for the project, coordinate with metal fabrications and

shop drawings for installation of indicated supporting members.

Include in the drawings:

Locations and dimensions of the partitions, doors, pilasters, screens, and door swings.

Heights of the bottoms of enclosures and screens above the floor

Method of support to be employed, using details where needed for clarity.

Provisions for attaching hardware to partitions.

A schedule to identify the finish and color to be used.

****

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 DAF45	(2003; Reaffirmed 2009) Designation System for Aluminum Finishes

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2017) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A167	(2011) Standard Specification for

	Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM A336/A336M	(2018) Standard Specification for Alloy Steel Forgings for Pressure and High-Temperature Parts
ASTM A385/A385M	(2020) Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)
ASTM A653/A653M	(2020) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM A666	(2015) Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar
ASTM B36/B36M	(2018) Standard Specification for Brass Plate, Sheet, Strip, and Rolled Bar
ASTM B86	(2018) Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings
ASTM B221	(2014) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B221M	(2013) Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM B456	(2017) Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium
ASTM D570	(1998; E 2010; R 2010) Standard Test Method for Water Absorption of Plastics
ASTM D638	(2014) Standard Test Method for Tensile Properties of Plastics
ASTM D696	(2016) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C With a Vitreous Silica Dilatometer
ASTM D2583	(2013a) Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
ASTM D6386	(2016a) Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting

ASTM D7611/D7611M	(2013; E 2014) Standard Practice for Coding Plastic Manufactured Articles for Resin Identification
ASTM D7803	(2019) Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Powder Coating
ASTM E84	(2020) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G21	(2015) Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)

CDPH SECTION 01350	(2010; Version 1.1) Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers

CSA GROUP (CSA)

CSA B45.5-17/IAPMO Z124	(2017; Errata 2017; Errata 2018) Plastic Plumbing Fixtures

INTERNATIONAL CODE COUNCIL (ICC)

ICC A117.1 COMM	(2017) Standard And Commentary Accessible and Usable Buildings and Facilities

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ANSI/NEMA LD 3	(2005) Standard for High-Pressure Decorative Laminates

NSF INTERNATIONAL (NSF)

NSF/ANSI 51	(2012) Food Equipment Materials

SCIENTIFIC CERTIFICATION SYSTEMS (SCS)

SCS	SCS Global Services (SCS) Indoor Advantage

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)

SAE AMS2460	(2013; Rev A) Plating, Chromium

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

CID A-A-60003	(Basic) Partitions, Toilet, Complete

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

36 CFR 1191	Americans with Disabilities Act (ADA)

Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines

UNDERWRITERS LABORATORIES (UL)

UL 2818 (2013) GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings

1.2 SUBMITTALS

****

NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets following the "G" classification, with a code of up to three characters 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.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

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" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification 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

Installation Drawings; G[, [_____]]

SD-03 Product Data

Cleaning and Maintenance Instructions

Colors And Finishes

Painted Metal

Sound-Deadening Cores

Anchoring Devices and Fasteners

Hardware and Fittings

Brackets

Door Hardware

Toilet Enclosures

Room Entrance Screens

Urinal Screens

Pilaster Shoes

Finishes; G[, [_____]]

[Recycled content for painted steel partitions and screens; S]

[Recycled content for stainless steel partitions and screens; S]

[Recycled content for plastic laminate partitions and screens; S]

[Recycled content for solid phenolic partitions and screens; S]

SD-04 Samples

Colors and Finishes; G[, [_____]]

Hardware and Fittings

Anchoring Devices and Fasteners

SD-07 Certificates

Warranty

[Indoor air quality for plastic laminate clad partitions and screens; S]

[Indoor air quality for solid phenolic, black core partitions and screens; S]

SD-10 Operation and Maintenance Data

Plastic Identification; G[, [_____]]

1.3 CERTIFICATIONS

1.3.1 Indoor Air Quality

1.3.1.1 Laminated Plastic and Solid Phenolic Products

****

NOTE: The Government's preference is for use of products that have been certified for indoor air quality by a third-party organization such as Greenguard or SCS Global Services. However, it must be verified there is a certified product available that is both cost effective and appropriate for the project. The requirements of this paragraph are invoked when the designer of record confirms local/regional availability of Greenguard or SCS products and includes the bracketed requirements for indoor air quality certified products in Part 2 of this Section.

****

Provide products certified to meet indoor air quality requirements by UL 2818 (Greenguard) Gold, SCS Global Services Indoor Advantage Gold or provide certification or validation by other third-party program that products meet the requirements of this Section. Provide current product certification documentation from certification body.

1.4 REGULATORY REQUIREMENTS

Comply with to ICC A117.1 COMM code for access for the handicapped operation of toilet compartment door and hardware.

1.5 DELIVERY, STORAGE, AND HANDLING

Deliver materials in the manufacturer's original unopened packages with the brand, item identification, and project reference clearly marked. Store components in a dry location that is adequately ventilated; free from dust, water, other contaminants, and damage during delivery, storage, and construction.

****

NOTE: Edit the warranty based on product selected. Depending on product used and manufacturer, warranties vary drastically between products. Also note some manufacturers have different warranties between construction, materials and hardware.

****

1.6 WARRANTY

Provide manufacturer's warranty to repair or replace defective materials and workmanship for a period of [one year][____] [years] from date of final acceptance of the work.

PART 2 PRODUCTS

****

NOTE: Painted metal (Finish 1) toilet enclosures, urinal screens, and room entrance screens are suitable for use in installations where the partitions are subjected to normal usage and exposure conditions. Solid phenolic black core (Finish 4), solid phenolic color through core (Finish 4A), solid polyethylene (Finish 5), and homogeneous filled acrylic (Finish 6) should be used unless not economically feasible. Composite materials are generally not recyclable at the end of their useful life. Any plastic or metal materials used must contain recycled materials as indicated. Plastic laminate clad (Finish 3) toilet partitions will not be used where severe water conditions will be encountered, such as where cleaning is to be performed by spraying water.

Where toilet partitions are indicated for hard usage or severe exposure areas, finishes other than painted metal (Finish 1) or plastic laminate clad (Finish 3) should be specified when their high initial cost can be justified through life cycle cost. The least expensive painted metal finish is generally the least durable of the finishes listed in CID A-A-60003. Plastic laminate clad (Finish 3) costs more than the painted metal and less than stainless steel (Finish 2), solid phenolic (Finish 4 or 4A), or solid polyethylene (Finish 5), or homogeneous filled acrylic (Finish 6). Plastic laminate clad (Finish 3) finishes are hard and smooth; resistant to wear, scratches, periodic moisture, impact, acids and alkalis, and cigarette burns.

Next to stainless steel (Finish 2), solid phenolic (Finish 4 and 4A), solidpolyethylene (Finish 5), and homogeneous filled acrylic (Finish 6) are the most durable finishes available. When finishes other than painted metal (Finish 1) are being considered, plastic laminate clad (Finish 3) should be the next logical choice, followed by solid phenolic (Finish 4 and 4A), solid polyethylene (Finish 5), homogeneous filled acrylic (Finish 6) and stainless steel (Finish 2). Solid polyethylene (Finish 5), stainless steel (Finish 2), homogeneous filled acrylic (Finish 6), and solid phenolic (Finish 4 and 4A) are highly resistant to humidity, steam, detergents, cleaning chemicals and corrosion. Interior fire and smoke finish classification must be addressed when materials other than metal partitions are being considered. Edit the following paragraphs for styles and finishes.

Generally, floor-supported enclosures, Style A, will be used; and overhead braced enclosures, Style C, and overhead braced-alcove, Style F, will be used when pilasters cannot be anchored into minimum 76 mm 3 inches thick structural concrete. Ceiling hung enclosures, Style B, will be used only when the

additional cost is justified for reasons of sanitation or appearance. Ceiling hung enclosures, Style B, are not recommended by manufacturers when ceiling height is greater than 2.59 m 8 feet 6 inches. Urinal screens, when deemed necessary, may be any of the 6 styles available, but the floor to ceiling hung screen, Style D, is the most justifiable for reasons of cost and sanitation. Type II, Style D, room entrance screens are generally the most durable style due to the floor to ceiling post support design. Edit as needed to meet project requirements.

If ceiling hung enclosures are to be used, details showing the structural steel channel support system should be shown on the drawings. This section should be coordinated with Section 10 28 13 TOILET ACCESSORIES and the drawings regarding toilet enclosures which will have partition-mounted accessories attached to the panels.

Screens and enclosures that are thicker than standard panels last longer, especially in high-use

****

2.1 SYSTEM REQUIREMENTS

Provide a complete and usable toilet partition system, including toilet enclosures, room entrance screens, urinal screens, system of panels, hardware, and support components. Furnish the partition system from a single manufacturer, with a standard product as shown in the most recent catalog data. Submit Fabrication Drawings for toilet partitions and urinal screens consisting of fabrication and assembly details to be performed in the factory. Submit manufacturer's Cleaning and Maintenance Instructions in accordance with Section 01 78 23 OPERATIONS AND MAINTENANCE DATA.

2.1.1 Plastic Identification

****

NOTE: The marking system indicated below is intended to provide assistance in identification of products for making subsequent decisions as to handling, recycling, or disposal.

****

Verify that plastic products to be incorporated into the project are labeled in accordance with ASTM D7611/D7611M. Where products are not labeled, provide product data indicating polymeric information in the Operation and Maintenance Manual.

Type 1	Polyethylene Terephthalate (PET, PETE)
Type 2	High Density Polyethylene (HDPE)
Type 3	Vinyl (Polyvinyl Chloride or PVC)
Type 4	Low Density Polyethylene (LDPE)

Type 1	Polyethylene Terephthalate (PET, PETE)
Type 5	Polypropylene (PP)
Type 6	Polystyrene (PS)
Type 7	Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

2.2 MATERIALS

****
NOTE: Stainless steel is available in different textures. Determine the required texture and select appropriately under paragraph 2.3.2
****

2.2.1 Painted Metal (Finish 1)

Provide galvanized steel sheet cold-rolled, stretcher-level, commercial quality material, conforming to ASTM A653/A653M, with a Flame Spread Index of 0 and a Smoke Developed Index of 0. Surface preparation for painting to comply with [ASTM D6386, method for baked enamel] [or] [ASTM D7803 for powder coat].

2.2.2 Stainless Steel Sheet (Finish 2)

Provide stainless steel sheet conforming to ASTM A666, 300 series commercial stainless steel sheet suitable for exposed applications with a Flame Spread Index of 0 and a Smoke Developed Index of 0. Provide smooth material, without creases or ripples. Provide face sheet of minimum of 1.22 mm 0.048 inch (1.27 mm(18 gauge) thickness. Provide with [No. 4 finish] [manufacturer's standard textured finish][_____].

2.2.3 Plastic Laminate Clad (Finish 3)

Provide decorative matte finish plastic laminate bonded to resin impregnated particle board core with non-toxic adhesive, with a Flame spread Index of 75 or less and a Smoked Developed Index of 450 or less.

2.2.4 Phenolic Core (Finish 4) (Finish 4A)

Provide compressed cellulose fibers impregnated with resins. Provide smooth material without creases or ripples, with a Flame Spread Index of 75 or less and a Smoke Developed Index of 450 or less. The surface laminate is fused to the resin-impregnated core.

2.2.5 Solid Polyethylene Panels (Finish 5)

Provide high density polyethylene (HDPE) suitable for exposed application. Waterproof, non-absorbent and graffiti resistant textured surface with a Flame Spread Index of 75 or less, and a Smoke Developed Index of 450 or less.

2.2.6 Homogenous Filled Acrylic (Finish 6)

Cast, 100 percent acrylic solid polymer material composed of acrylic polymer, mineral fillers, and pigments that meets the following minimum performance requirements.

PROPERTY	REQUIREMENT (min. or max.)	TEST PROCEDURE
Tensile Strength	281 kg/cm2 4000 psi (max.)	ASTM D638
Hardness	55-Barcol Impressor (min.)	ASTM D2583
Thermal Expansion	.0000414 cm/cm/degrees C .000023 in/in/degrees F (max.)	ASTM D696
Boiling Water Surface Resistance	No Change	ANSI/NEMA LD 3
High Temperature Resistance	No Change	ANSI/NEMA LD 3
Impact Resistance (Ball Drop)		ANSI/NEMA LD 3
6 mm 1/4 inch sheet	914 mm, 227 g 36 inches, 1/2 lb ball, no failure	
13 mm 1/2 inch sheet	3556 mm, 227 g 140 inches, 1/2 lb ball, no failure	
19 mm 3/4 inch sheet	5080 mm, 227 g 200 inches, 1/2 lb ball, no failure	
Mold and Mildew Growth	No growth	ASTM G21
Bacteria Growth	No growth	ASTM G21
Liquid Absorption (Weight in 24 hrs.)	0.1 percent max.	ASTM D570
Flammability		ASTM E84
Flame Spread	25 max.	
Smoke Developed	30 max.	
Sanitation	"Food Contact" approval	NSF/ANSI 51

2.2.7 Sound-Deadening Cores

****

NOTE: Leave this paragraph only if selecting Painted Metal (Finish 1) or Stainless Steel (Finish 2) partitions. All others do not have a sound deadening core.

****

Provide sound deadening consisting of treated kraft paper honeycomb cores with a cell size of not more than 25 mm 1 inch. Provide resin-material content weighing not less than 11 percent of the finished core weight. Face expanded cores on both sides with kraft paper.

2.2.8 Anchoring Devices and Fasteners

Provide steel anchoring devices and fasteners hot-dipped galvanized after fabrication, in conformance with ASTM A385/A385M and ASTM A123/A123M. Conceal all galvanized anchoring devices.

2.2.9 Brackets

Provide two-ear panel wall brackets, T-style, 25 mm 1 inch stock. Provide stirrup style panel-to-pilaster brackets.

2.2.10 Hardware and Fittings

2.2.10.1 General Requirements

Provide hardware for the toilet partition system that complies with CID A-A-60003 for the specified type and style of partitions. Provide hardware finish highly resistant to alkalis, urine, and other common toilet room acids. Comply with 36 CFR 1191 of latching devices and hinges for handicap compartments; provide [chrome-plated steel] [or] [stainless steel] devices and hinges with door latches that operate without either tight grasping or twisting of the wrist of the operator. Submit three samples of each item, including anchoring devices and fasteners. Approved hardware samples may be installed in the work if properly identified.

Material	Conformance Standard
Cold-rolled sheet steel	ASTM A336/A336M, commercial quality
Zinc-base alloy	ASTM B86, Alloy AC41-A
Brass	ASTM B36/B36M, Alloy C26800
Aluminum	ASTM B221M ASTM B221
Corrosion-resistant steel	ASTM A167, Type [302][304]

2.2.10.2 Finishes

[a. Provide chrome plating that complies with ASTM B456.

][b. Provide finish that complies with SAE AMS2460, Class I, Type [I][II].

][c. Provide aluminum with clear anodic coating that complies with AA DAF45.

][d. Provide corrosion-resistant steel with a No. 4 finish.

][e. Provide stainless steel with a No. 4 finish.

][f. Provide exposed fasteners that match the hardware and fittings.

]2.2.11 Door Hardware

2.2.11.1 Hinges

Provide adjustable hinges to hold in-swinging doors open at any angle up to 90 degrees and outswinging doors up to 10 degrees. Provide

self-lubricating hinges with the indicated swing. Provide hinges that [are surface-mounted type] [are cutout-insert type] [are exposed pivot] [are semi-concealed] [and] [have the following type of return movement:

[a. Gravity return movement

][b. Spring-action cam return movement

][c. Torsion-rod return movement

]]2.2.11.2 Latch and Pull

Provide latch and pull that is a combination rubber-faced door strike and keeper equipped with emergency access. [Provide [surface mounted] [concealed] latch].

2.2.11.3 Coat Hooks

Provide coat hooks that are combination units with hooks and rubber tipped pins.

2.3 PARTITION PANELS AND DOORS

Fabricate partition panels, and pilasters of materials and construction listed:

Provide [[painted metal partition] [stainless steel partition] panels and doors in finished thickness of no less than 25 mm 1 inch and pilasters no less than 32 mm 1-1/4 inches, both with face sheets no less than [0.79 mm 0.031 inch] [0.97 mm 0.038 inch]]. [Phenolic partition panels not less than 13 mm 1/2 inch thick and door and pilasters not less than 19 mm 3/4 inch thick] [plastic laminated partition and door panels no less than [22 mm 7/8 inch] [25 mm 1 inch] thick and pilaster no less than 32 mm 1 1/4 inch thick] [plastic (HDPE) partition panels, doors and pilasters not less than 25 mm 1 inch thick] [homogenous filled acrylic partition panels and doors no less than 13 mm 1/2 inch thick and pilasters no less than 25 mm 1 inch thick].
[Provide painted metal toilet partitions and screens with recycled content of 27 percent minimum. Provide data identifying percentage of recycled content for painted steel partitions and screens.][Provide stainless steel toilet partitions and screens with recycled content of 50 percent minimum. Provide data identifying percentage of recycled content for stainless steel partitions and screens.] [Provide plastic laminate toilet partitions and screens with recycled content of 45 percent minimum. Provide data identifying percentage of recycled content for plastic laminate partitions and screens.] [Provide solid polyethylene toilet partitions and screens with recycled content of 30 percent minimum.]. [Provide homogeneous filled acrylic with recycled content of 6 percent minimum]. [Provide solid phenolic toilet partitions and screens with recycled content of 10 percent minimum].[Provide data identifying percentage of recycled content for solid phenolic partitions and screens.]

****

NOTE: Based on research, certain base materials such as plastic laminate clad and solid phenolic, black core are available from US national manufacturers as a reduced VOC product certified by Greenguard or SCS Global Services. Retain one of the last bracketed sentences requiring products with

indoor air quality certification when the designer of record confirms local/regional availability of Greenguard or SCS products that does not impact cost effectiveness.
****

[[Provide plastic laminate clad and solid phenolic, black core toilet partitions and urinal screens to meet the emissions requirements of CDPH SECTION 01350 (limit requirements for either office or classroom spaces regardless of space type)]. [Provide certification of indoor air quality for plastic laminate clad partitions and screens.][Provide certification of indoor air quality for solid phenolic, black core partitions and screens.]]

2.3.1 Toilet Enclosures

Provide toilet enclosures that comply with CID A-A-60003, Type I, Style [A, floor supported] [B, ceiling hung] [C, overhead braced] [F, overhead braced-alcove]. Furnish width, length, and height of toilet enclosures as shown. Finish surface of panels are [painted metal (Finish 1)][stainless steel (Finish 2)][plastic laminate clad (Finish 3)][solid phenolic, black core (Finish 4)][solid phenolic, color through the core (Finish 4A)][solid polyethylene (Finish 5)][homogenous filled acrylic (Finish 6)][_____]; water resistant; graffiti resistant; non-absorbent radius beveled edges. Reinforce panels indicated to receive toilet paper holders or grab bars for mounting of the items required, and provide cut outs for through partition toilet accessories. Provide grab bars to withstand a bending stress, shear stress, shear force, and a tensile force induced by 1112 N 250 lbf. Grab bars cannot rotate within their fittings.

2.3.2 Room Entrance Screens

****
NOTE: Delete the following paragraphs when screens are not required.

Length and height of room entrance screens will be shown on the drawings, using standard size panels and pilasters to the maximum extent practicable.
****

Provide room entrance screens that comply with CID A-A-60003, Type II, Style [A, floor anchored] [B, ceiling hung braced] [C, overhead braced] [D, wall hung] [_____]. Provide finish surface of screens to be [painted metal (Finish 1)][stainless steel (Finish 2)][plastic laminate clad (Finish 3)][solid phenolic, black core (Finish 4)][solid phenolic, color through the core (Finish 4A)][solid polyethylene (Finish 5)][homogenous filled acrylic (Finish 6)][_____]; water resistant; graffiti resistant; non-absorbent with radius beveled edges. Furnish length and height of screens as shown. Provide thickness to match toilet compartment panel construction. Fabricate screens from the same types of panels, pilasters, and fittings as the toilet partitions.

2.3.3 Urinal Screens

****
NOTE: Use of urinal screens between individual urinals will be dependent on the function of the

facility. Use of urinal screens will normally be limited to those applications where sanitary protection is required, such as between a urinal and an immediately adjacent lavatory. Style A screens should normally be between 610 to 914 mm 24 to 36 inches wide. Style E screens should normally be between 457 to 610 mm 18 to 24 inches wide. Wall hung, Style E, urinal screens will be used only where the supporting construction is masonry or concrete. Where high use is expected, choose the last bracketed sentence.

****

Provide urinal screens that comply with CID A-A-60003, Type III, Style [A, floor supported] [B, ceiling hung] [C, overhead braced] [D, floor to ceiling hung] [E, floor to ceiling post supported] [F, wall hung]. Provide finish for surface of screens as [painted metal (Finish 1)][stainless steel (Finish 2)][plastic laminate clad (Finish 3)][solid phenolic, black core (Finish 4)][solid phenolic, color through the core (Finish 4A)][solid polyethylene (Finish 5)] [homogenous filled acrylic (Finish 6)][_____]; water resistant; graffiti resistant; non-absorbent with radius beveled edges; with manufacturer's standard post design of materials matching the thickness and construction of pilasters. Furnish width and height of urinal screens as shown. Provide thickness to match toilet compartment panel construction. Secure wall hung urinal screens with [a minimum of three wall stirrup brackets.] [1067 mm42 inches long, continuous flanges.] Fabricate screens from the same types of panels and pilasters as the toilet partitions. Use corrosion-resistant steel fittings and fasteners.

2.4 CEILING-HUNG PARTITIONS

****

NOTE: Delete this paragraph if ceiling-mounted partitions are not required.

****

Provide pilasters in size indicated that are manufacturer's standard corrosion resistant anchoring assemblies complete with leveling adjustment nuts at pilasters for connection to structural support above finished ceiling. Design anchoring device to transmit the strain and loading on the pilaster directly to the structural support above without putting strain or loading on the finished ceiling. Provide sleeves or caps at tops of pilasters to conceal anchorage.

2.5 FLOOR-ANCHORED PARTITIONS

****

NOTE: Delete this paragraph if floor-supported partitions are not required.

****

Provide pilasters in size indicated that are manufacturer's standard corrosion resistant anchoring assemblies complete with leveling adjustment nuts and pilasters for structural connection to floor. Provide anchoring device at the bottom of the pilaster consisting of a steel bar not less than 13 mm by 22 mm 1/2 by 7/8 inch welded to the reinforced face sheets and having not less than two 10 mm 3/8 inch round anchorage devices for securing to the floor slab. Provide anchorage devices complete with

threaded rods, expansion shields, lock washers, and leveling-adjustment nuts. Provide shoes at pilasters to conceal anchorage.

2.6 OVERHEAD-BRACED PARTITIONS

****
NOTE: Delete this paragraph if overhead-braced partitions are not required.
****

Provide pilasters in sizes indicated that are manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism. Provide anchoring device at the bottom of the pilaster consisting of a channel-shaped floor stirrup fabricated from not less than 2 mm 0.0635 inch thick material and a leveling bolt. Secure the stirrup to the pilaster with not less than a 5 mm 3/16 inch bolt and nut after the pilaster is leveled. Secure the stirrup to the floor with not less than two lead expansion shields and sheetmetal screws. Fabricate overhead brace from a continuous extruded aluminum tube not less than 25 mm 1 inch wide by 38 mm 1-1/2 inch high, 3 mm 0.125 inch wall thickness. Finish is AA-C22A31 in accordance with AA DAF45. Set and secure brace into the top of each pilaster. Provide shoes at pilasters to conceal supports and leveling mechanism.

2.7 PILASTER SHOES

Provide shoes at pilasters to conceal floor-mounted anchorage. Provide [aluminum] [stainless steel] [one piece molded HDPE] [_____] pilaster shoes. Height is a minimum 76 mm 3 inches.

2.8 HARDWARE

Provide hardware for the toilet partition system that complies with CID A-A-60003 for the specified type and style of partitions. [Provide hardware pre-drilled by manufacturer.] Use a hardware finish that is highly resistant to alkalis, urine, and other common toilet room acids. [Hardware includes: chrome plated nonferrous cast pivot hinges, gravity type, adjustable for door close positioning; nylon bearings; [black anodized] [chrome plated] [_____] aluminum door latch; door strike and keeper with rubber bumper; and cast alloy chrome plated coat hook and bumper, [_____].] Provide latching devices and hinges for handicap compartments complying with 36 CFR 1191 and [chrome-plated steel] [or] [stainless steel] door latches that operate without either tight grasping or twisting of the wrist of the operator.[Use stainless steel, tamper proof type screws and bolts. Wall mounting brackets are continuous, full height, [aluminum] [stainless steel] [heavy duty plastic] [_____], in accordance with toilet compartment manufacturer's instructions.. Provide floor-mounted anchorage consisting of corrosion-resistant anchoring assemblies with threaded rods, lock washers, and leveling adjustment nuts at pilasters for structural connection to floor.]

2.9 COLORS AND FINISHES

2.9.1 Colors

****
NOTE: In areas where a high degree of damage, corrosion, and frequent replacement has been

experienced or where, for reasons of sanitation or appearance, additional cost is justified, partition finishes should be selected on the basis of Life Cycle Cost Analysis (LCC). The LCC analysis should be performed for a period of not less than ten years. For any project requiring non-combustible partitions, panels, screens, or door finishes, exclude finish No. 5.

Editing of color reference sentence(s) must be coordinated with the Government. Generally, Section 09 06 00 SCHEDULES FOR FINISHES or drawing is used when the project is designed by an architect or interior designer. Color must be selected from manufacturers' standard colors or identified as a manufacturers' color in this specification only when the project is very simple and has minimal finishes.

When the Government directs that color be located in the drawings a note must be added that states: "Where color is shown as being specific to one manufacturer, an equivalent color by another manufacturer may be submitted for approval. Manufacturers and materials specified are not intended to limit the selection of equal colors from other manufacturers. The word "color" as used herein includes surface color and pattern."

Prior to specifying a custom color finish, research to determine if additional cost and lead time is feasible. Note there is often a minimum order requirement; this requirement will also affect future orders.

When a manufacturer's name, stock number, pattern, and color is used, be certain that the product conforms to this specification, as edited.
****

Provide color [as specified in Section 09 06 00 SCHEDULES FOR FINISHES.][as indicated; colors listed are not intended to limit the selection of equal colors from other manufacturers.]

[Color of pilaster shoes matches the core of solid plastic compartments and screens.] Submit three samples showing color and a finished edge on two adjacent sides and core construction, each not less than 305 mm 12 inch square.

2.9.2 Finishes

2.9.2.1 Finishes No. 1 Through No. 3

Provide partitions, panels, screen, and door finishes that comply with CID A-A-60003 finished with [Painted Metal (Finish 1)][Stainless Steel (Finish 2)][Plastic Laminate Clad (Finish 3)].

2.9.2.2 Finishes No. 4, No 4A and No. 5

Provide manufacturer's standard [black core (Finish 4)][color through the

core (Finish 4A)] [or] [solid polyethylene (Finish 5)] formed under high pressure rendering a single component section not less than 25 mm 1 inch thick. Colors extend throughout the panel thickness.

2.9.2.3 Finish No. 6

Provide homogeneous filled acrylic (Finish 6) with through body colors meeting CSA B45.5-17/IAPMO Z124.

PART 3 EXECUTION

3.1 PREPARATION

Take field measurements prior to the preparation of drawing and fabrication to ensure proper fits. Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive work. Verify correct spacing of plumbing fixtures. Verify correct location of built in framing, anchorage, and bracing. Report in writing to Contracting Officer prevailing conditions that adversely affect satisfactory execution of the work of this section. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 METAL PARTITION FABRICATION

a. Fabricate metal partition panels, doors, screens, and pilasters required for the project from galvanized-steel face sheets with formed edges. Laminate face sheets via pressure to the sound-deadening core with edges sealed with a continuous locking strip and corners mitered and welded. Ground all welds smooth. Provide concealed reinforcement for installation of hardware, fittings, and accessories. Surface of face sheets must be , free from wave, warp, or buckle.

b. Before application of an enamel coating system, solvent-clean galvanized-steel surfaces to remove processing compounds, oils, and other contaminants harmful to coating-system adhesion. After cleaning,coat the surfaces with a metal-pretreatment phosphate coating. After pretreatment, finish exposed galvanized-steel surfaces with a baked-enamel coating system as specified.

c. Provide an enamel coating system consisting of a factory-applied baked acrylic enamel coating system. Provide a coating system that is a durable, washable, stain-resistant, and mar-resistant finish.

3.3 INSTALLATION

****

NOTE: Toilet partitions in barracks, and other hard usage areas, as well as those partitions on which grab bars are to be mounted, will be bolted to walls. Through-bolting will be specified for these applications; except, toggle bolts may be specified when through-bolting would be exposed in a finished room or would otherwise be unsuitable.

Select anchorage devices for types of wall construction as required.

****

Do not install items that show visual evidence of biological growth.

Install partitions rigid, straight, plumb, and level, with the panels centered between the fixtures. Provide a panel clearance of not more than 13 mm 1/2 inch and secure the panels to walls and pilasters with continuous full height wall brackets. Locate wall brackets so that holes for wall bolts occur in masonry or tile joints. Secure panels to pilasters with brackets matching the wall brackets. Provide for adjustment due to minor floor variations. Locate head rail joints at pilaster center lines. Install adjacent components for consistency of line and plane. Equip each door with hinges, one door latch, and one coat hook and bumper. Align hardware to uniform clearance at vertical edges of doors.

a. Secure panels to hollow plastered walls with toggle bolts using not less than M6x1 1/4-20 screws of the length required for the wall thickness. Provide toggle bolts with a load-carrying strength of not less than 2668.9 N 600 pounds per anchor.

b. Secure panels to ceramic tile on hollow plastered walls or hollow concrete-masonry walls with toggle bolts using not less than M6x1 1/4-20 screws of the length required for the wall thickness. Provide toggle bolts with a load-carrying strength of not less than 2668.9 N 600 pounds per anchor.

c. Secure panels to solid masonry or concrete with lead or brass expansion shields designed for use with not less than M6x1 1/4-20 screws, with a shield length of not less than 38 mm 1-1/2 inches. Provide expansion shields with a load-carrying strength of not less than 2668.9 N 600 pounds per anchor.

d. Submit Installation Drawings for toilet partitions, room entrance screens, and urinal screens showing plans, elevations, details of construction, hardware, reinforcing and blocking, fittings, mountings and escutcheons. Indicate on drawings the type of partition, location, mounting height, cutouts, and reinforcement required for toilet-room accessories.

3.4 CEILING-HUNG PARTITIONS

****

NOTE: Delete this paragraph if ceiling-mounted partitions are not required.

****

Secure pilasters to the structural support above with the anchorage device specified. Make all leveling devices readily accessible for leveling, plumbing, and tightening the installation. Level the bottoms of doors with bottoms of pilasters when doors are in a closed position.

3.5 FLOOR-ANCHORED PARTITIONS

****

NOTE: Delete this paragraph if floor-anchored partitions are not required.

****

Secure pilasters to the floor with the anchorage device specified. Make all leveling devices readily accessible for leveling, plumbing, and tightening the installation. Level tops of doors with tops of pilasters when doors are in a closed position. Expansion shields have a minimum 51

mm 2 inch penetration into the concrete slab.

3.6 OVERHEAD-BRACED PARTITIONS

****
NOTE: Delete this paragraph if overhead-braced partitions are not required.
****

Secure pilasters to the floor with the anchorage device specified. Make all leveling devices readily accessible for leveling, plumbing, and tightening the installation. Secure overhead brace to the pilaster face with not less than two fasteners per face. Expansion shields have a minimum 51 mm 2 inch penetration into the concrete slab. Make tops of doors parallel with the overhead brace when doors are in a closed position.

3.7 FINAL ADJUSTMENT

After completion of the installation, make final adjustments to the pilaster-leveling devices, door hardware, and other working parts of the partition assembly. Doors have a uniform vertical edge clearance of approximately 5 mm 3/16 inch and rest open at approximately 30 degrees when unlatched.

3.8 CLEANING

Touch up baked enamel and powder coat finish with the same color of paint that was used for the finish. Clean all surfaces and adjacent surfaces soiled as a result of the work, in an approved manner compliant with the manufacturer's recommended cleaning and protection from damage procedures until accepted. Remove all equipment, tools, surplus materials, and work debris from the site.

-- End of Section --