
USACE / NAVFAC / AFCEC / NASA UFGS-06 61 16 (August 2010)
Change 1 - 08/18
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Preparing Activity: USACE Superseding
UFGS-06 61 16 (August 2009)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2019

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DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

SECTION 06 61 16

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08/10

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SECTION 06 61 16

SOLID SURFACING FABRICATIONS 08/10

NOTE: This guide specification covers the requirements for solid polymer fabrications.

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: On the drawings, show:

1. Locations and configurations of solid polymer components.
2. Edge details of components.
3. Attachment methods for substrates.
4. Details of acrylic or other material inlay.
5. Details of sandblasting or back lighting.

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 Reference Identifier (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.

ASTM INTERNATIONAL (ASTM)

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 E84	(2018a) 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
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CSA GROUP (CSA)

CSA B45.5-11/IAPMO Z124 (2011; Update 1 2012) Plastic Plumbing
Fixtures - First Edition

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

TILE COUNCIL OF NORTH AMERICA (TCNA)

TCNA Hdbk (2017) Handbook for Ceramic, Glass, and
Stone Tile Installation

UNDERWRITERS LABORATORIES (UL)

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

1.2 SYSTEM DESCRIPTION

NOTE: The term "solid surfacing material" encompasses many formulations, including 100 percent acrylic, and blends of acrylic/polyester called acrylic-modified, and other formulations which include such materials as fiberglass for strengthening. Performance characteristics and cost will vary depending on the formulation. For the purposes of this specification, only solid polymer materials in 100 percent acrylic or acrylic-modified polyester formulations will be considered. These two materials provide the best value in terms of performance and life-cycle cost. When specifying solid surfacing products other than solid polymer, care should be taken to fully understand the limitations of these products compared to solid polymer with regard to performance characteristics, fabrication, and installation.

Veneered products consisting of a thin top layer of solid surfacing material with a structural substrate of plywood or particleboard are not considered to be solid polymer with respect to this specification. When specifying a veneered product, care should be taken to fully understand the limitations of this product compared to solid polymer fabrications with regard to performance characteristics and installation.

This specification can be used for countertops, countertops with sinks, sinks or bowls, window stools, tub and shower walls, toilet and shower partitions, wainscoting, shelving, table tops, hot and cold cafeteria surfaces, flooring thresholds, wall panel wainscoting, and other applications where a hard, durable, stain resistant surface is desired. Facility types include, but are not limited to: healthcare, institutional, administrative, hospitality, retail, and laboratories. The use of solid polymer fabrications meets many health, hygiene, and durability requirements due to its non-porous and abrasion resistant properties. Provide specific project uses in the brackets below.

- a. Work under this section includes [_____] and other items utilizing solid polymer (solid surfacing) fabrication as shown on the drawings and as described in this specification. Do not change source of supply for materials after work has started, if the appearance of finished work would be affected.
- b. In most instances, installation of solid polymer fabricated components and assemblies will require strong, correctly located structural support provided by other trades. To provide a stable, sound, secure installation, close coordination is required between the solid polymer fabricator/installer and other trades to ensure that necessary structural wall support, cabinet counter top structural support, proper clearances, and other supporting components are provided for the installation of wall panels, countertops, shelving, and all other solid polymer fabrications to the degree and extent recommended by the solid polymer manufacturer.
- c. Appropriate staging areas for solid polymer fabrications. Allow variation in component size and location of openings of plus or minus 3 mm 1/8 inch.

1.3 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.

The Guide Specification technical editors have designated 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 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.

The "S" following a submittal item indicates that the submittal is required for the Sustainability eNotebook to fulfill federally mandated sustainable requirements in accordance with Section 01 33 29 SUSTAINABILITY REPORTING. Locate the "S" submittal under the SD number that best describes the submittal item.

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.] [information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Detail Drawings; G[, [_____]]

Installation; G[, [_____]]

SD-03 Product Data

Solid Polymer Material

Qualifications

Fabrications

Indoor air quality for solid surface seam and sealant products; S

SD-04 Samples

Material; G[, [_____]]

Counter and Vanity Tops; G[, [_____]]

SD-06 Test Reports

Solid Polymer Material

SD-07 Certificates

Fabrications

Qualifications

Indoor Air Quality for solid surface fabrication products; S

SD-10 Operation and Maintenance Data

Clean-up

1.4 CERTIFICATIONS

1.4.1 Indoor Air Quality

Submit required indoor air quality certifications and validations in one submittal package.

1.4.1.1 Indoor Air Quality for Solid Surface Fabricated Products

Provide products certified to meet indoor air quality requirements by **UL 2818** (Greenguard) Gold, **SCS** Global Services Indoor Advantage Gold or provide certification by other third-party program that products meet the requirements of this Section. Provide current product certification documentation from certification body. When product does not have certification, provide validation that product meets the indoor air quality product requirements cited herein.

1.5 QUALITY ASSURANCE

NOTE: Although solid polymer materials are fabricated by methods and with tools similar to wood fabrications, familiarity with and expertise in fabricating solid polymer items is essential to achieving high quality results. Cabinet or millwork shops, often associated with cabinet countertops and other millwork fabrications do not necessarily possess this expertise. Proof of qualification is therefore very important.

1.5.1 Qualifications

To ensure warranty coverage, solid polymer fabricators must be certified to fabricate by the solid polymer material manufacturer being utilized. Mark all fabrications with the fabricator's certification label affixed in an inconspicuous location. Fabricators must have a minimum of 5 years of experience working with solid polymer materials. Submit solid polymer manufacturer's certification attesting to fabricator qualification approval.

1.5.2 Mock-ups

NOTE: The countertop submittal sample, as described here, is intended for submittal review at the COE or AE reviewer's office. Where only field or onsite submittal reviews are provided and multiple units are to be installed, the Contractor can be given the

requirement to provide a full size mock-up for inspection. A full size mock-up precludes the need for the countertop sample.

Submit **Detail Drawings** indicating locations, dimensions, component sizes, fabrication and joint details, attachment provisions, installation details, and coordination requirements with adjacent work. Prior to final approval of shop drawings, provide a full-size mock-up of a typical [vanity top] [countertop] [shelving] [_____] where multiple units are required. The mock-up must include all solid polymer components required to provide a completed unit, and utilize finishes in patterns and colors indicated on the drawings. Should the mock-up not be approved, re-work or remake it until approval is secured. Remove rejected units from the jobsite. Approved mock-up may remain as part of the finished work.

1.6 DELIVERY, STORAGE, AND HANDLING

Do not deliver materials to project site until areas are ready for installation. Deliver components and materials to the site undamaged, in containers clearly marked and labeled with manufacturer's name. Store materials indoors with adequate precautions taken to prevent damage to finished surfaces. Provide protective coverings to prevent physical damage or staining following installation, for duration of project.

1.7 WARRANTY

Provide manufacturer's warranty of ten years against defects in materials, excluding damages caused by physical or chemical abuse or excessive heat. Provide warranty for material and labor for replacement or repair of defective material for a period of ten years after component installation.

PART 2 PRODUCTS

2.1 MATERIAL

NOTE: Standard thicknesses for solid polymer material are 6 mm 1/4 inch, 13 mm 1/2 inch, or 19 mm 3/4 inch. Material 13 mm 1/2 inch thick is considered standard for most applications and is an adequate thickness for most counter top and horizontal surface use; this material does not ordinarily require any sheet underlayment, such as plywood or particle board, when properly spaced structural support is provided. The 6 mm 1/4 inch thick material is generally used only for vertical applications.

Provide **solid polymer material** that is a homogeneous filled solid polymer; not coated, laminated or of a composite construction; meeting **CSA B45.5-11/IAPMO Z124** requirements. Provide materials with the minimum physical and performance properties specified. Superficial damage to a depth of 0.25 mm 0.01 inch must be repairable by sanding or polishing. Provide material thickness as indicated on the drawings. Provide material not less than 6 mm 1/4 inch in thickness. Submit a minimum 100 by 100 mm 4 by 4 inch sample of each color and pattern for approval. Provide samples that indicate the full range of color and pattern variation.

Retain approved samples as the standard for this work throughout the construction duration. Submit test report results from an independent testing laboratory attesting that the submitted solid polymer material meets or exceeds each of the specified performance requirements. Provide materials that meet the emissions requirements of [CDPH SECTION 01350](#) (limit requirements for either office or classroom spaces regardless of space type).

Provide certification or validation of [indoor air quality for solid surface fabrication products](#).

2.1.1 Cast, 100 Percent Acrylic Polymer Solid Surfacing Material

NOTE: Although acrylic-modified polyester polymer is specified below, cast, solid 100 percent acrylic polymer material has superior performance characteristics and is therefore considered a superior choice of materials. Select cast, solid 100 percent acrylic polymer unless cost or a particular pattern/color are considered a higher priority.

Provide cast, 100 percent acrylic solid polymer material composed of acrylic polymer, mineral fillers, and pigments and meeting the following minimum performance requirements:

PROPERTY	REQUIREMENT (min. or max.)	TEST PROCEDURE
Tensile Strength	291 kg/cm ² 4000 psi (max.)	ASTM D638
Hardness	55-Barcol Impressor (min.)	ASTM D2583
Thermal Expansion	.0000386cm/cm/deg C .000023 in/in/F (max.)	ASTM D696
Boiling Water Surface Resistance	No Change	ANSI/NEMA LD 3-3.05
High Temperature Resistance	No Change	ANSI/NEMA LD 3-3.06
Impact Resistance (Ball drop)		ANSI/NEMA LD 3-303
6.4 mm 1/4 inch sheet	910 mm, 227 g 36 inches, 1/2 lb ball, no failure	
12.7 mm 1/2 inch sheet	3550 mm, 227 g 140 inches, 1/2 lb ball, no failure	
19 mm 3/4 inch sheet	5070 mm, 227 g 200 inches, 1/2 lb ball, no failure	
Mold & Mildew Growth	No growth	ASTM G21

PROPERTY	REQUIREMENT (min. or max.)	TEST PROCEDURE
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

2.1.2 Acrylic-modified Polymer Solid Surfacing Material

Provide cast, solid polymer material composed of a formulation containing acrylic and polyester polymers, mineral fillers, and pigments. Provide acrylic polymer content not less than 5 percent and not more than 10 percent to meet the following minimum performance requirements:

PROPERTY	REQUIREMENT (min. or max.)	TEST PROCEDURE
Tensile Strength	288 kg/cm ² 4100 psi (max.)	ASTM D638
Hardness	50-Barcol Impressor (min.)	ASTM D2583
Thermal Expansion	.0000386cm/cm/deg C .000023 in/in/F (max.)	ASTM D696
Boiling Water Surface Resistance	No Change	ANSI/NEMA LD 3-3.05
High Temperature Resistance	No Change	ANSI/NEMA LD 3-3.06
Impact Resistance (Ball drop)		ANSI/NEMA LD 3-303
6.4 mm 1/4 inch sheet	910 mm, 227 g 36 inches, 1/2 lb ball, no failure	
12.7 mm 1/2 inch sheet	3550 mm, 227 g 140 inches, 1/2 lb ball, no failure	
19 mm 3/4 inch sheet	5070 mm, 227 g 200 inches, 1/2 lb ball, no failure	
Mold & Mildew Growth	No growth	ASTM G21
Bacteria Growth	No growth	ASTM G21

PROPERTY	REQUIREMENT (min. or max.)	TEST PROCEDURE
Liquid Absorption (Weight in 24 hrs.)	0.6 percent max.	ASTM D570
Flammability		ASTM E84
Flame Spread	25 max.	
Smoke Developed	100 max.	
Sanitation	"Food Contact" approval	NSF/ANSI 51

2.1.3 Material Patterns and Colors

NOTE: Availability of material patterns and colors within any particular manufacturer may vary depending on the material thickness. Scratches in some dark colored solids and patterns, while repairable, are highly visible until repair takes place. Color selection should be based on material availability and severity of end use condition.

Provide patterns and colors for all solid polymer components and fabrications indicated on the project [drawings] [color schedule] [_____]. Pattern and color must be consistent in appearance, throughout the entire depth (thickness) of the solid polymer material.

2.1.4 Surface Finish

NOTE: Matte finish is recommended for most horizontal surfaces such as countertops. A matte finish is the best for masking surface scratches and is the best finish for facilitating repair of minor scratches, cuts, and abrasions. Semi gloss and polished surface finishes are recommended only for very light-duty end use surfaces. Gloss ratings are based on standard glossometer readings made at a 60 degree angle of incidence.

Where semigloss or gloss finishes are specified, recommend these finishes be factory supplied in order to ensure a consistent gloss level of reflectance throughout the entire surface area.

Provide exposed finished surfaces and edges with a uniform appearance. Exposed surface finish must be [matte; gloss rating of 5-20] [semigloss; gloss rating of 25-50] [polished; gloss rating of 55-80] [as indicated on the drawings].

2.2 ACCESSORY PRODUCTS

Provide accessory products, as specified below, manufactured by the solid polymer manufacturer or products approved by the solid polymer manufacturer for use with the solid polymer materials being specified.

2.2.1 Seam Adhesive

Provide a two-part adhesive kit to create permanent, inconspicuous, non-porous, hard seams and joints by chemical bond between solid polymer materials and components to create a monolithic appearance of the fabrication. Adhesive must be approved by the solid polymer manufacturer and color-matched to the surfaces being bonded where solid-colored, solid polymer materials are being bonded together. Provide clear or color matched seam adhesive where particulate patterned, solid polymer materials are being bonded together.

2.2.2 Panel Adhesive

Provide neoprene based panel adhesive meeting **TCNA Hdbk**, Underwriter's Laboratories (UL) listed. Use this adhesive to bond solid polymer components to adjacent and underlying substrates.

2.2.3 Silicone Sealant

Provide a mildew-resistant, FDA and OSHA Nationally Recognized Testing Laboratory (NRTL) listed silicone sealant or caulk in a clear formulation. The silicone sealant must be approved for use by the solid polymer manufacturer. Use sealant to seal all expansion joints between solid polymer components and all joints between solid polymer components and other adjacent surfaces such as walls, floors, ceiling, and plumbing fixtures.

2.2.4 Seam and Sealant Emissions

Provide seam and other accessory materials that meet the emissions requirements of **CDPH SECTION 01350** (limit requirements for either office or classroom spaces regardless of space type).

Provide validation of **indoor air quality for solid surface seam and sealant products**.

2.2.5 Conductive Tape

Provide manufacturer's standard conductive foil tape, **0.1 mm 4 mils** thick, applied around the edges of cut outs containing hot or cold appliances.

2.2.6 Insulating Felt Tape

NOTE: This tape is not required for cooktops or ranges in family housing or other residential applications. Only commercial food wells create enough heat or cold to require extra insulation. Conductive tape is adequate for residential kitchen cooktop cutouts.

Provide manufacturer's standard insulating tape product for use with drop-in food wells used in commercial food service applications to insulate solid polymer surfaces from hot or cold appliances.

2.2.7 Heat Reflective Tape

Provide heat reflective tape as recommended by the solid polymer manufacturer for use with cutouts for heat sources.

2.2.8 Mounting Hardware

Provide mounting hardware, including sink/bowl clips, inserts and fasteners for attachment of undermount sinks and lavatories.

2.3 FABRICATIONS

Provide factory or shop fabricated components to sizes and shapes indicated, to the greatest extent practical, in accordance with approved Shop Drawings and manufacturer's requirements. Provide factory cutouts for sinks, lavatories, and plumbing fixtures where indicated on the drawings. Contours and radii must be routed to template, with edges smooth. Defective and inaccurate work will be rejected. Submit product data indicating product description, fabrication information, and compliance with specified performance requirements for solid polymer, joint adhesive, sealants, and heat reflective tape.

2.3.1 Joints and Seams

Form joints and seams between solid polymer components using manufacturer's approved seam adhesive. Provide inconspicuous joints in appearance and without voids to create a monolithic appearance.

2.3.2 Edge Finishing

Rout and finish component edges to a smooth, uniform appearance and finish. Provide edge shapes and treatments, including any inserts, as detailed on the drawings. Rout all cutouts, then sand all edges smooth. Repair or reject defective or inaccurate work.

2.3.3 Counter and Vanity Top Splashes

Fabricate backsplashes and end splashes from [13 mm 1/2 inch] [_____] thick solid surfacing material to be [[100 mm 4 inches] [_____] high] [in conformance with dimensions and shapes as indicated on the drawings]. Provide backsplashes and end splashes [for all counter tops and vanity tops] [at locations indicated on the drawings]. Provide shop fabricated [permanently attached] [loose, to be field attached] backsplashes.

2.3.3.1 Permanently Attached Backsplash

NOTE: Permanently attached backsplashes eliminate the maintenance associated with silicone caulk attachment. Straight attachment with joint adhesive results in a 90 degree square appearance in the counter top/backsplash transition. It is lower in cost than the coved transition method which involves shaping and adhering a strip of matching solid surfacing material into the transition.

Fasten permanently attached backsplashes [straight with seam adhesive to form a 90 degree transition] [with seam adhesive and to form a radiused coved transition from countertop to backsplash].

2.3.3.2 End Splashes

Provide end splashes as loose for installation at the jobsite after horizontal surfaces to which they are to be attached have been installed.

2.3.4 Shelving

Provide shelving [and wall support brackets] fabricated from [13 mm 1/2 inch] [_____] thick solid surfacing, solid polymer material, including dimensions, edge shape, and other details as indicated on the drawings.

2.3.5 Window Stools

NOTE: Many manufacturers of solid polymer material offer a program of pre-fabricated window stools in selected patterns and colors, dimensions, thicknesses, and edge details. Use of these programs can result in considerable cost-savings over custom fabricated window stools. Utilize these programs to the greatest extent possible.

Fabricate window stools from [13 mm 1/2 inch] [_____] thick solid surfacing, solid polymer material, including dimensions, edge shape, and other details [as indicated on the drawings] [selected from manufacturer's available pre-fabricated standards].

2.3.6 Counter and Vanity Tops

Fabricate all solid surfacing, solid polymer counter top and vanity top components from [13 mm 1/2 inch] [_____] thick material including details, dimensions, locations, and quantities as indicated on the Drawings. Provide complete counter tops with [100 mm 4 inch] [_____] high [loose] [permanently attached, 90 degree transition] [permanently attached with coved transition backsplash and loose endsplashes] [at all locations] [where indicated on the drawings]. Attach 50 mm 2 inch wide reinforcing strip of polymer material under each horizontal counter top seam. Submit a minimum 300 mm 1 foot wide by 150 mm 6 inch deep, full size sample for each type of counter top shown on the project drawings. The sample must include the edge profile and backsplash as detailed on the project drawings. Provide solid polymer material of a pattern and color as indicated on the drawings. Provide sample that includes at least one seam and retain approved sample as standard for this work.

2.3.6.1 Counter Top With Sink

NOTE: Rimless sink type is recommended with solid surfacing countertops. Rimless installation provides superior countertop cleaning capability.

- a. Stainless Steel or Vitreous China Sink. Provide countertops with sinks that include cutouts to template as furnished by the sink manufacturer. Provide manufacturer's standard sink mounting hardware for [stainless steel] [vitreous china] [rimless] [_____] installation. Seal seam between sink and counter top shall be sealed with silicone sealant. Install sink, faucet, and plumbing requirements in accordance with Section 22 00 00 PLUMBING,GENERAL PURPOSE.
- b. Provide solid polymer sinks that are a manufacturer's standard, pre-molded product specifically designed for attachment to solid polymer countertops.

2.3.6.2 Vanity Tops With Bowls

NOTE: Rimless sink type is recommended with solid surfacing countertops. Rimless installation provides superior countertop cleaning capability.

- a. Provide countertops with vitreous china bowls including cutouts to template as furnished by the sink manufacturer. Provide manufacturer's standard sink mounting hardware for vitreous china [rimless] [_____] installation. Seal seam between sink and countertop with silicone sealant. Install sink, faucet, and plumbing requirements in accordance with Section 22 00 00 PLUMBING,GENERAL PURPOSE.
- b. Provide solid polymer bowls as manufacturer's standard, pre-molded product specifically designed for attachment to solid polymer counter tops.

NOTE: Many manufacturers of solid polymer offer one-piece, prefabricated vanity tops and bowls in various configurations and sizes. These pre-fabricated units can provide considerable cost savings over field fabricated units. Care should be taken when specifying one-piece units to coordinate the unit size designed with the available manufacturer's standard dimensions.

- c. Provide one-piece vanity top and bowl fabrications that are a standard pre-fabricated product provided by the solid polymer manufacturer. Each unit must include a vanity top with integral backsplash and sink bowl.

2.3.6.3 Cafeteria Counter Tops

Provide cutouts for cold or hot appliances made to templates furnished by the equipment manufacturers. Fabricate and reinforced joints and cutouts as recommended by the solid polymer manufacturer. Provide insulation between the solid polymer surface and all appliances, hot or cold. Thermally isolate hot applications from cold applications in accordance with the solid polymer manufacturer's recommendations. Provide expansion joints as necessary to accommodate hot appliances. Where cabinets exist

beneath counter tops, provide adequate ventilation to prevent heat build-up.

2.3.7 Solid Polymer Sinks

Provide polymer sinks that are a standard product of the solid polymer manufacturer, designed specifically to be installed in solid polymer countertops. Provide sinks with the same polymer composition as the adjoining counter top. Provide sink design that supports a [seam adhesive undermount] [seam adhesive flush] installation method. Provide sink with a [single bowl] [double bowl] [double bowl with molded drainboard] configuration. Provide sink dimension [of []] [as indicated on the drawings].

2.3.8 Solid Polymer Vanity Bowls

Provide solid polymer vanity bowls that are a standard product of the solid polymer manufacturer, designed specifically to be installed in solid polymer vanity tops. Provide bowls of the same polymer composition as the adjoining counter top. Provide a bowl design that supports a [seam adhesive undermount] [seam adhesive flush] installation method. Provide bowl dimension [of []] [as indicated on the drawings].

2.3.9 [Tub][Shower] Wall Panel System

NOTE: Some solid polymer manufacturers offer standardized tub and shower surround kits that can be field cut to fit with minimum material waste. These standardized packages can provide significant cost savings over custom designed tub and shower panel applications.

Provide [tub][shower] wall enclosures in a system of solid polymer components to include: [panels] [corner trim] [soap dish] [shampoo shelf] [panel edge trim] [_____]. Provide dimensions of all components [as indicated on the drawings] [standard manufacturer's dimensions to be field cut to fit]. Panels must be formed from manufacturer's standard [6 mm 1/4 inch] [_____] thick sheet product. Provide full width and height panels with seams occurring only at the inside corners of the enclosure. Soap dish and shampoo shelf must be of a configuration, shape, and location [as indicated on the drawings] [as standard with the manufacturer's system].

2.3.10 Wall Cladding/Wainscoting

Provide solid polymer wall cladding or wainscoting to dimensions and in locations as shown on the drawings. Panels must be fabricated from manufacturer's standard [6 mm 1/4 inch] [_____] thick sheet product. Provide panels to heights shown on the drawings with no horizontal seaming. Utilize the maximum panel dimension available in panel configurations to minimize vertical seams.

2.3.11 [Toilet][Shower] Partition System

NOTE: Some solid polymer manufacturers offer standardized partition kits that include all solid polymer components and installation hardware. These

standardized packages can provide significant cost savings over custom designed partition systems and should be utilized wherever possible.

Provide floor mounted, solid polymer [toilet] [shower partition] system [to dimensions indicated and] [as standard manufacturer's dimensions] in locations as shown on the drawings. Panels and pilasters must be fabricated from manufacturer's standard [13 mm 1/2 inch] [_____] thick sheet product. Provide all necessary hardware for installation and mounting of the overall system, panels, pilasters, and doors.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Components

Do not install items that show visual evidence of biological growth. Install all components and fabricated units plumb, level, and rigid. Make field joints between solid polymer components using solid polymer manufacturer's approved seam adhesives, to provide a monolithic appearance with joints inconspicuous in the finished work. Attach metal or vitreous china sinks and lavatory bowls to counter tops using solid polymer manufacturer's recommended clear silicone sealant and mounting hardware. Install all solid polymer sinks and bowls using a color-matched seam adhesive. Install all plumbing connections to sinks and lavatories in accordance with [Section 22 00 00 PLUMBING, GENERAL PURPOSE] [_____].

3.1.1.1 Loose Counter Top Splashes

Mount loose splashes in the locations noted on the drawings. Adhere loose splashes to the counter top with a color matched silicone sealant when the solid polymer components are solid colors. Use a clear silicone sealant to provide adhesion of particulate patterned solid polymer splashes to counter tops.

3.1.1.2 Wall Panels & Panel Systems

Use a neoprene-based panel adhesive for installation of wall panels and system components to substrates. Use seam adhesive to adhere all solid polymer components to each other with the exception of expansion joints and inside corners. Use a silicone sealant to join all inside corners and expansion joints between solid polymer components. Seal all joints between solid polymer components and non-solid polymer surfaces with a clear silicone sealant.

3.1.2 Silicone Sealant

Use a clear, silicone sealant or caulk to seal all expansion joints between solid polymer components and all joints between solid polymer components and other adjacent surfaces such as walls, floors, ceiling, and plumbing fixtures. Sealant bead must be smooth and uniform in appearance and use the minimum size necessary to bridge any gaps between the solid surfacing material and the adjacent surface. Install continuous bead that runs the entire length of the joint being sealed.

3.1.3 Plumbing

Make plumbing connections to sinks and lavatories in accordance with Section [22 00 00 PLUMBING, GENERAL PURPOSE] [_____].

3.2 CLEAN-UP

Clean all components after installation and cover to protect against damage during completion of the remaining project items. Components damaged after installation by other trades will be repaired or replaced at the General Contractor's cost. Component supplier will provide a repair/replace cost estimate to the General Contractor who must approve estimate before repairs are made. Submit a minimum of [six] [_____] copies of maintenance data indicating manufacturer's care, repair and cleaning instructions. Provide maintenance video if available. Submit maintenance kit for matte finishes.

-- End of Section --