UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2021
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08/18, CHG 2: 08/18

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UNIFIED FACILITIES GUIDE SPECIFICATIONS

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SECTION 12 36 00

COUNTERTOPS
08/18, CHG 2: 08/18

****
NOTE: This guide specification covers the requirements for countertops.

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

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.

AMERICAN FOREST FOUNDATION (AFF)

ATFS STANDARDS	(2015) American Tree Farm System Standards of Sustainability 2015-2020

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A161.2	(1998) Decorative Laminate Countertops, Performance Standards for Fabricated High Pressure

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B18.6.1	(2016) Wood Screws (Inch Series)

ASTM INTERNATIONAL (ASTM)

ASTM A167	(2011) Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM A325	(2014) Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A325M	(2014) Standard Specification for Structural Bolts, Steel, Heat Treated, 830 MPa Minimum Tensile Strength (Metric)
ASTM A1008/A1008M	(2020) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
ASTM D13	(2002) Standard Specification for Spirits of Turpentine
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 D2583	(2013a) Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor
ASTM D4689	(2012) Standard Specification for

	Adhesive, Casein-Type
ASTM D4690	(2012) Standard Specification for Urea Formaldehyde Resin Adhesives
ASTM E84	(2020) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM F594	(2009; R 2020) Standard Specification for Stainless Steel Nuts
ASTM F836M	(2020) Standard Specification for Style 1 Stainless Steel Metric Nuts (Metric)

CALIFORNIA AIR RESOURCES BOARD (CARB)

CARB 93120	(2007) Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products

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

COMPOSITE PANEL ASSOCIATION (CPA)

CPA A208.1	(2016) Particleboard

CSA GROUP (CSA)

CSA Z809-08	(R2013) Sustainable Forest Management

FOREST STEWARDSHIP COUNCIL (FSC)

FSC STD 01 001	(2015) Principles and Criteria for Forest Stewardship

INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS (IAPMO)

IAPMO Z124.3	(2005) Plastic Lavatories

INTERNATIONAL CODE COUNCIL (ICC)

ICC IPC	(2021) International Plumbing Code

KITCHEN CABINET MANUFACTURERS ASSOCIATION (KCMA)

KCMA A161.1	(2017) Performance & Construction Standards for Kitchen and Vanity Cabinets

MASTER PAINTERS INSTITUTE (MPI)

MPI 28	(2012) Varnish, Marine Spar, Exterior, Gloss (MPI Gloss Level 6)

MPI 91 (2012) Paste, Wood Filler

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

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

PROGRAMME FOR ENDORSEMENT OF FOREST CERTIFICATION (PEFC)

PEFC ST 2002:2013 (2015) PEFC International Standard Chain of Custody of Forest Based Products Requirements

SCIENTIFIC CERTIFICATION SYSTEMS (SCS)

SCS SCS Global Services (SCS) Indoor Advantage

SCIENTIFIC EQUIPMENT AND FURNITURE ASSOCIATION (SEFA)

SEFA 7 (2007) Recommended Practice for Laboratory and Hospital Fixtures

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)

SCAQMD Rule 1168 (2017) Adhesive and Sealant Applications

SUSTAINABLE FOREST INITIATIVE (SFI)

SFI 2015-2019 (2015) Standards, Rules for Label Use, Procedures and Guidance

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

CID A-A-59295 Corrosion Preventive Compounds, Cold Application(For New And Fielded Motor Vehicles And Trailers)

FS FF-S-325 (Basic; Int Amd 3; Notices 3, 4) Shield, Expansion; Nail, Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)

FS MM-L-736 (Rev D; Notice 1) Lumber; Hardwood

FS TT-C-490 (Rev G; 2019) Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings

FS WW-P-541 (Rev E; Am 1; Notice 1) Plumbing Fixtures

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

40 CFR 770 Formaldehyde Standards for Composite Wood Products

UNDERWRITERS LABORATORIES (UL)

UL 2818 (2013) GREENGUARD Certification Program For Chemical Emissions For Building

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; G[, [____]]

Installation Drawings; G[, [____]]

SD-03 Product Data

Plywood; G[, [____]]

Hardwood; G[, [____]]

Granite; G[, [_____]]

Marble; G[, [_____]]

Synthetic Resin; G[, [_____]]

Stainless Steel; G[, [_____]]

[Recycled Content for Stainless Steel Countertops; S

] Tile; G[, [_____]]

FRP; G[, [_____]]

Adhesives; G[, [_____]]

Filler Material; G[, [_____]]

Particle Board; G[, [_____]]

[Recycled Content for Particleboard; S

] Turpentine; G[, [_____]]

Varnish; G[, [_____]]

Fasteners; G[, [_____]]

Stainless Steel Sinks; G[, [_____]]

Service Fixtures; G[, [_____]]

Joint Sealants; G[, [_____]]

Softwoods; G[, [_____]]

Plastic Laminate; G[, [_____]]

[Indoor Air Quality for Laminate and Wood Member Adhesives; S

][Indoor Air Quality for Mounting and Stone Adhesives; S

] Indoor Air Quality for Joint Sealants; S

SD-04 Samples

Countertop; G[, [_____]]

Backsplash; G[, [_____]]

Manufacturer's Standard Color Charts; G[, [_____]]

SD-07 Certificates

Certified Sustainably Harvested Wood; S

[Indoor Air Quality for Countertop Products; S

][Indoor Air Quality for Particleboard; S

] SD-08 Manufacturer's Instructions

Manufacturer's Instructions

1.3 CERTIFICATIONS

****
NOTE: Use certified sustainably harvested wood where suitable for application and cost effective. Sustainably Harvested Wood is a product which comes from a third-party Forestry Certification Program and thus carries certain characteristics: 1) Protection of biodiversity, species at risk and wildlife habitat, sustainable harvest levels, protection of water quality, and prompt regeneration (e.g., replanting and reforestation); 2) Third-party certification audits performed by accredited certification bodies; 3) Publicly available certification audit summaries; 4) Multi-stakeholder involvement in a standards development process; 5) Complaints and appeals process.

Verify suitability, availability within the region, cost effectiveness and adequate competition before specifying these sustainably harvested wood certifications - if these conditions are verified for the project locale, include the following section. For projects pursuing LEED, delete certifications other than FSC; for all other projects pursuing third-party certification allow the entire list of third party certifications.
****

[1.3.1 Certified Sustainably Harvested Wood

Provide wood certified as sustainably harvested by FSC STD 01 001[, ATFS STANDARDS, CSA Z809-08, SFI 2015-2019, or other third party program certified by PEFC ST 2002:2013]. Provide a letter of Certification of Sustainably Harvested Wood signed by the wood supplier. Identify certifying organization and their third party program name and indicate compliance with chain-of-custody program requirements. Submit sustainable wood certification data; identify each certified product on a line item basis. Submit copies of invoices bearing certification numbers.

]1.3.2 Indoor Air Quality Certification

Submit required indoor air quality certifications in one submittal package.

****
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. Retain the Section below when the designer of record confirms local/regional availability of

Greenguard or SCS products that does not impact cost effectiveness.

****

[1.3.2.1 Countertop Products

Provide countertop 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. When product does not have certification, provide validation that product meets the indoor air quality product requirements cited herein.

][1.3.2.2 Composite Wood, Wood Structural Panel and Agrifiber Products

****

NOTE: Include this section when particleboard is included in project.

****

For purposes of this specification, composite wood and agrifiber products include particleboard, medium density fiberboard (MDF), wheatboard, strawboard, panel substrates, and door cores. Provide products certified to meet emissions requirements of both 40 CFR 770 and CARB 93120. Provide current product certification documentation from certification body.

]1.4 DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle countertops [and backsplash] in a manner that will prevent damage and disfigurement.

Provide temporary skids under units weighing more than [_____] kilogram pounds.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

Provide the manufacturer's standard type countertops or as indicated on the drawings. Accomplish fastenings to permit removal and replacement of individual countertops without affecting the remainder of the installation.

Submit manufacturer's instructions for countertops including special provisions required to install equipment components and system packages. Include all special notices detailing impedances, hazards and safety precautions.

Submit manufacturer's standard color charts for countertops showing the manufacturer's recommended color and finish selections.

Provide countertop products certified to 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 countertop products.

2.1.1 Design

Provide factory fabricated, prefinished [wood] [marble] [stainless steel]

[_____] countertops in the manufacturer's standard sizes and finishes of the type, design, and configuration indicated. Provide countertops as specified and meet the requirements of KCMA A161.1. Accomplish fastenings to permit removal and replacement of individual units without affecting the remainder of the installation. Provide counters with watertight sink rim when indicated. Include removable drawers equipped with position stops to avoid accidental complete withdrawals.

2.2 FABRICATION

2.2.1 Countertop And Backsplash

Provide countertops and backsplash of [plywood] [wood] [particle board] [Granite][Marble][Synthetic resin][Stainless steel][Tile][FRP][_____] covered with a [shop-applied plastic laminate] [stainless steel] [an integral stainless steel top without backing][according to ANSI A161.2].

[Provide a water-resistant type plywood, Grade B-D Douglas fir plywood, with a minimum thickness of 20 mm 3/4-inch.[Provide [plywood] [hardwood] [Granite][Marble][Synthetic resin][Stainless steel] [Tile] [FRP] [_____] backsplash 20 mm 3/4-inch thick by the height indicated[, according to ANSI A161.2].]

][Provide particle board with a minimum thickness of 20 mm 3/4-inch. Build up edges and opening around sink rim with hardwood strips. Provide backsplash of similar construction, a minimum of 20 mm 3/4-inch [_____]thick by the height indicated.

] Provide steel no lighter than 0.85 millimeter 22-gage stainless steel for backed construction and not lighter than 1.3 millimeter 18-gage stainless steel for integral construction. Reinforce steel tops on edges and around sink-rim opening. Provide counters of one-piece construction; where stainless steel sink bowls are provided, weld and polish smooth all joints. Make joints between sink, countertop, and backsplash watertight. Provide backsplash of the same material as countertop and form with square edges, and height as indicated.

Provide continuous sheet laminate of the longest length practicable and of the design and color selected. Provide joints in the surface sheeting that are tight and flush, and held to a practical minimum number.

Edging and trim:

a. For plastic-laminate-covered countertops and backsplash, provide edging and trim consisting of:

   (1) Strips of laminate cut and fitted to exposed edges with contact adhesive

   (2) Stainless steel molding applied to exposed edges and at the intersection of the top and backsplash with a concealed fastening system

   (3) For stainless steel countertops and backsplash, form the edging and trim as an integral part of the top.

Provide sink rims which are the standard products of a manufacturer regularly producing this type of equipment, fabricated from stainless steel of the size necessary to receive the sinks.

****

NOTE: Select the appropriate statement from the following paragraph for the type of chopping block desired.

****

[Include chopping block of the size and in the location indicated on the drawings, [portable type, of solid edge-grain clear [maple] [_____], minimum 20 mm 3/4-inch thick, sized to fit on a suitable rack for storage][stationery type or built-up, edge-grain clear [maple] [_____], minimum 40 millimeter 1-1/2-inches thick, installed in a countertop].

]2.2.1.1 High-Pressure Laminated Plastic Clad Countertops

Provide clad countertop and backsplash of[20 mm 3/4-inch thick plywood] [or][20 mm 3/4-inch thick, 20 kg 44 pound density particle board core], [post formed cove type] [or] [fully formed type]. [Provide single unit cove type unit with self-edging and plastic laminate coved at the juncture of the countertop and backsplash.] [Provide fully formed type or square edge unit with shaped edges using wood nose molding at counter edge, including a separate backsplash not less than 90 mm 3-1/2-inch high.] Provide edging and trim that consists of plastic laminate cut and fitted to all exposed edges. Supply end splashes constructed of 20 mm 3/4-inch plywood or 20 mm 3/4-inch thick, 20 kg 44 pound density particle board core. Provide continuous sheets of longest lengths practicable. Make all joints in surface sheeting tight and flush. When the countertop and backsplash are two separate units, use GP50 plastic laminate. When the countertop and backsplash are one unit, use PF42 plastic laminate. Provide plastic laminate conforming to the requirements of ANSI/NEMA LD 3, with contact type plastic laminate adhesive applied to both surfaces. For fully formed and cove type countertops, the post-forming plastic laminate cannot be bent to a radius smaller than the limit recommended by the plastic manufacturer.

2.2.1.2 Solid Polymer Countertops

Provide countertop and backsplash [with integral [sink] [and] [lavatory]] [of sheet material for sink/lavatory cutout]; as shown, with [12.7] [19] [_____] mm [1/2] [3/4] [_____]-inch material thickness, cast, and filled nonporous solid surfacing composed of acrylic polymer, mineral fillers, and pigments. Repair superficial damage, a depth of no more than 0.25 mm 0.010-inch, by sanding or polishing. Use material conforming to the following performance requirements:

a. Tensile Strength; 18.3 N/mm^2 4100 psi, when tested in accordance with ASTM D638.

b. Hardness; Barcol Impressor 50 when tested in accordance with ASTM D2583.

c. Flammability; rated Class I with a flame spread of 25 maximum and a smoke developed of 100 maximum when tested in accordance with ASTM E84.

d. Boiling water resistance; no effect when tested in accordance with ANSI/NEMA LD 3.

e. High temperature; no effect when tested in accordance with ANSI/NEMA LD 3.

f. Liquid absorption; 0.06 percent maximum (24 hours) when tested in accordance with ASTM D570.

g. Sanitation; National Sanitation Foundation approval for food contact in accordance with Standard 51 and approval for food area applications.

h. Impact resistance; no failure for ball drop when tested in accordance with ANSI/NEMA LD 3.

2.2.1.3 Solid Polyester Resin Cultured Marble Countertops

Provide countertop and backsplash [with integral [sink] [and] [lavatory]] [of sheet material for sink/lavatory cutout]; as shown. Use material of [12.7] [19] [_____] mm [1/2] [3/4] [_____]-inch thickness minimum, cast, and filled nonporous solid surfacing composed of polyester resin crushed marble, glass frit, mineral fillers and pigments. Material is to comply with IAPMO Z124.3 and the following performance requirement; Flammability: Class I, flame spread of 25 maximum, smoke developed of 100 maximum when tested in accordance with ASTM E84.

2.2.2 Color, Texture, and Pattern

****

NOTE: Coordinate editing of color reference sentence(s) 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. Select color 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 add a note 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.

****

Select color [in accordance with Section 09 06 00 SCHEDULES FOR FINISHES.] [as indicated on the drawings.] [from manufacturers standard colors.] [_____] Color listed is not intended to limit the selection of equal colors from other manufacturers.

2.3 MATERIALS

****

NOTE: Use materials with recycled content where appropriate for use. Verify suitability, availability within the region, cost effectiveness and adequate competition (including verification of bracketed percentages included in this guide specification) before specifying product recycled content requirements.

Research shows the product is commonly available above the minimum recycled content percentages shown below. However, higher percentages may be available. Based on research, insert desired minimum percentages into the empty set of brackets.

****

[Provide stainless steel conforming to ASTM A1008/A1008M and ASTM A167, Type [302] [304] [316] Finish 4. [Stainless steel countertops and backsplashes must contain a minimum of [40][_____] percent recycled content. Provide data identifying percentage of recycled content for stainless steel countertops.]

][Provide [Douglas-fir] [_____] plywood conforming to ICC IPC, exterior type, fully waterproof bond.

] Use thermosetting urea-resin Type II Adhesives for application of plastic laminate conforming to ASTM D4690 as recommended by the manufacturer of the laminate. Use adhesive for wood members conforming to ASTM D4689. Provide laminate and wood member adhesives meeting either emissions requirements of CDPH SECTION 01350 (limit requirements for either office or classroom spaces regardless of space type) or VOC content requirements of SCAQMD Rule 1168. Provide validation of indoor air quality for laminate and wood member adhesives.

Use filler material conforming to MPI 91.

[Provide hardwood conforming to FS MM-L-736, standard hardwood lumber, S2S, and hardwood plywood conforming to ICC IPC.

****

NOTE: Use certified sustainably harvested wood where suitable for application and cost effective. Verify suitability, availability within the region, cost effectiveness, and adequate competition before specifying this certification.

****

[Wood materials must contain a minimum of [50][_____] percent certified sustainably harvested wood. Provide documentation that certified sustainably harvested wood is used and identify percentage.]

****

NOTE: Use materials with recycled content where appropriate for use. Verify suitability, availability within the region, cost effectiveness and adequate competition (including verification of bracketed percentages included in this guide

specification) before specifying product recycled content requirements.

Research shows the product is commonly available above the minimum recycled content percentages shown below. However, higher percentages may be available. Based on research, insert desired minimum percentages into the empty set of brackets.

****

][Provide particle board conforming to CPA A208.1, Type 1, Grade M or medium density. Particleboard must contain a minimum of [50][_____] percent recycled content. Provide data identifying percentage of recycled content for particleboard. Particle board products must contain no added urea-formaldehyde resins. Provide certification of indoor air quality for particleboard.
]

****

NOTE: Review ANSI/NEMA LD 3 and insert style, type, grade, class, and finish as required.

****

Provide plastic laminate conforming to ANSI/NEMA LD 3, Style [_____], Type [_____], Grade [_____], Class [_____], Finish [_____].

Provide softwoods conforming to Voluntary Product Standard PS-20.

Provide turpentine conforming to ASTM D13.

Provide varnish conforming to MPI 28.

Provide fasteners conforming to the following:

a. Screws: ASME B18.6.1, Group, Type and Class as applicable

b. Anchoring Devices: FS FF-S-325, Group, Type, and Class as applicable

c. Toggle Bolts:

(1) Wings are two sheet-metal parts of "U" or channel shape. The wings are pivoted either on trunnion nuts or pins and are held normally in open position by a spring or springs placed inside the wing groove.

(2) Wing pivots are integral with the trunnion nuts used with the machine screw or threaded stud. Ensure the nut engages not less than two full threads of its screw or stud except in toggle bolts where the wing parts close on the bolt and lock it while being tightened, in which case one full thread engagement is permissible. The trunnion nuts are inserted in place with the pivots passed through the eyes in the wings.

d. Nuts: ASTM F594, stainless steel

e. Bolts: ASTM A325, heavy, hexagon head bolts stainless steel

f. Nuts: ASTM F836M, stainless steel

g. Bolts: ASTM A325M, heavy, hexagon head bolts stainless steel

****
NOTE: Specify sink for inset-type installation in Section 22 00 00 PLUMBING, GENERAL PURPOSE.
****

Stainless Steel Sinks:

[a. 1.3 millimeter 18-gage stainless steel, integral with corrosion-resistant steel countertop

][b. 1.3 millimeter 18-gage stainless steel, nonintegral, self-rimming

] c. Drain holes in center of bowl

d. Underside coated with 3 millimeter 1/8-inch thick sound deadener

e. Die-form, seamless, raised edges at front and ends

f. Cove corners to 13 millimeter 1/2-inch radius

g. Equip with strainers and tail pieces

Sound deadening: Conform to CID A-A-59295.

Provide service fixtures conforming to the following requirements:

a. Fixtures: In accordance with the water conservation policy as stated in the Standard Plumbing Codes, Appendix J.

b. Faucets: Splashback mounted, cast brass, chrome plated, FS WW-P-541

c. Faucets: Deck mounted, cast brass, chrome plated, FS WW-P-541

d. Gas, air, and vacuum, distilled water, steam, and de-ionized water cocks: Cast brass, chrome plated, ground key type

e. Drains, strainers, and taps: Brass, chrome plated, FS WW-P-541

f. Index buttons: Plastic, color codes in accordance with SEFA 7

g. Special items: Nipples and locknuts with each fixture will be as directed.

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

Type I, zinc phosphate

Type II, iron phosphate

Type III, organic-paint, varnish, lacquer
****

[h. Metal pretreatment coatings: FS TT-C-490, Type I

][i. Metal pretreatment coatings: FS TT-C-490, Type II

][j. Metal pretreatment coatings: FS TT-C-490, Type III

][k. Enamel: Baked enamel

]2.4 MIXES

2.4.1 Adhesives

Provide mounting and stone adhesives meeting either emissions requirements of CDPH SECTION 01350 (limit requirements for either office or classroom spaces regardless of space type) or VOC content requirements of SCAQMD Rule 1168. Provide validation of indoor air quality for mounting and stone adhesives.

2.4.1.1 Mounting Adhesives

Provide structural-grade silicone or epoxy adhesives of type recommended by manufacturer for application and conditions of use.

Provide spacers, if required, of type recommended by adhesive manufacturer.

2.4.1.2 Stone Adhesive

Provide epoxy or polyester adhesive of type recommend by manufacturer for application and conditions of use.

If adhesive will be visible in finished work, tint adhesive to match surfacing.

2.4.2 Joint Sealants

Use clear silicone sealant of type recommended by manufacturer for application and conditions of use. Provide joint sealant products meeting either emissions requirements of CDPH SECTION 01350 (limit requirements for either office or classroom spaces regardless of space type) or VOC content requirements of SCAQMD Rule 1168. Provide validation of indoor air quality for joint sealants.

Provide anti-bacterial type in [[toilet][and][bath] rooms,][food preparation areas,][and][_____].

PART 3 EXECUTION

3.1 INSTALLATION

****
NOTE: Include Section 22 00 00 PLUMBING, GENERAL PURPOSE for the installation of sinks requirements.
****

Inspect material for defects prior to installation. Ensure materials throughout bear labels with the same batch number. Visually inspect materials used for adjacent pieces to assure acceptable color match. Inspect in lighting conditions similar to those on the project. Repair or replace damaged materials.

Install countertops plumb with cabinetry level to within 1 millimeter in 3000 millimeter 1/16-inch in 10-feet. Level base cabinets by adjusting leveling screws. Scribe and fit scribe strips to irregularities of

adjacent surfaces. Gap openings exceeding 0.63 millimeter 0.025-inch are not acceptable.

Secure countertops to cabinetry and wall construction using[6 millimeter 1/4-inch diameter masonry anchors][_____], spaced[760 millimeter 30-inches][_____] maximum on center.

Submit installation drawings for countertops. Ensure drawings include location of cabinets, details of cabinets related and dimensional positions, and locations for roughing in plumbing, including sinks, faucets, strainers and cocks.

3.1.1 Preliminary Installation and Adjustment

Install materials in accordance to manufacturer's recommendations. Lift and place to avoid breakage.

Position materials to verify that materials are correctly sized and prepared. Make necessary adjustments.

If jobsite cutting, grinding, or polishing is required, use water-cooled tools. Protect jobsite and surfaces against dust and water. Perform work away from installation site if possible.

[Gypsum drywall back walls [which are not [fire][or][acoustically] rated] may be routed up to half the thickness of the drywall to allow countertop to fit.

][Shim countertop drainage [adjacent to sinks][and][where drainage is required], slightly to insure positive drainage.

]3.1.2 Surfacing

3.1.2.1 Laminated Plastic Surfacing

Laminate plastic sheeting to faces and exposed edges of particle board at 138 kilopascal and 85 degrees C 20 pounds per square inch and 185 degrees F.

Apply backing sheet to concealed faces.

3.1.2.2 Stainless Steel Surfacing

Form counters and work surfaces of 1.6 millimeter 16-gage sheets with exposed edges returned.

Use hat-shaped channels, 1.6 millimeter 16-gage, for reinforcement, spaced 760 millimeter 30-inches on center.

Equip surfaces with wood strips under edges for fastening to cabinets.

Cove internal corners to 15 millimeter 1/2-inch radius.

Coat underside with 3 millimeter 1/8-inch thick sound deadener.

Electrically weld all joints, grind smooth, and polish to match adjacent finish.

[3.1.2.3 Wood Countertop Finish

Provide factory applied [stained wood] [clear coated natural finish] [or] [HPDL] finish [as indicated] on all internal and external surfaces.

[a. Stained Wood Finish

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NOTE: Manufacturers use a variety of wood species in the production of kitchen cabinets. To specify a single species would be cost prohibitive and/or restrict competition. When indicating finishes, such as "light oak," "medium walnut," etc., a wood species should be included in the finish designation for use as a guide to the wood grain character and appearance.

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[As selected from manufacturer's standard finishes] [As indicated]. Internal surfaces need to receive at least one coat of finish material.

][b. HPDL Finish

Pattern and color: [As selected from manufacturer's standard finishes][As indicated].

]]3.1.3 Permanent Installation

After verifying fit, remove quartz surfacing from position, clean substrates of dust and contamination, and clean quartz surfacing back side and joints with solvent.

Apply sufficient quantity of mounting adhesive in accordance with adhesive manufacturer's recommendations to provide permanent, secure installation.

Spacing of mounting adhesive will not exceed:

a. Horizontal Surfaces: [_____] mm [_____]-inch on center

b. Vertical Surfaces: [_____] mm [_____]-inch on center; provide temporary shims until adhesive cures.

[Fasteners][Grout][Hardware]: [_____]

Install surfacing plumb, level, and square and flat to within 1.6 mm in 3 meters 1/6-inch in 10-feet.

3.1.4 Joints

Ensure joints between adjacent pieces of quartz surfacing are:

a. Flush, tight fitting, level, and neat.

b. Securely joined with stone adhesive. Fill joints level with quartz surfacing.

Clamp or brace quartz surfacing in position until adhesive sets.

Seal joints [between backsplashes and countertops][and][around

[tub][and][shower] enclosures] with silicone sealer.

3.2 FIELD QUALITY CONTROL

Examine casework grounds and supports for adequate anchorage, foreign material, moisture, and unevenness that could prevent quality casework installation.

Ensure that electrical and plumbing rough-ins for casework are complete. Do not proceed with installation until defects are corrected.

3.3 ADJUSTING AND CLEANING

3.3.1 Solvent

Use a product recommended by adhesive manufacturer to clean surface of quartz surfacing to assure adhesion of adhesives [and sealants].

3.3.2 Cleaning Agents

Use non-abrasive, soft-scrub type kitchen cleaners.

3.3.3 Cleaning

On completion of cabinet installation, touch up marred or abraded finished surfaces. Remove crating and packing materials from premises. Wipe down surfaces to remove fingerprints and markings and leave in clean condition.

-- End of Section --