

SPEC NOTE: This Section is based on Corian® Product manufactured by DuPont. Technical information and a listing of the DuPont registered Corian® fabricator/installers can be provided by local DuPont™ Corian® distributor. The local distributor can be obtained by calling DuPont at 1-800-4-CORIAN (1-800-426-7426). Qualified construction and design professional may copy this document for the purpose of creating construction specifications or purchase orders for products and materials manufactured by E.I. du Pont de Nemours and Company.

1 General

1.1 SUMMARY

- .1 Section Includes: Provide solid surfacing fabrications including but not limited to following:
 - .1 window sills.
 - .2 lavatory or laboratory tops with seamed bowls.
 - .3 lavatory or laboratory tops with undermount bowls.
 - .4 lavatory or laboratory tops with integral bowls.
 - .5 counter tops for nurses stations - reception areas.
 - .6 vanity tops.
 - .7 cafeteria surfaces hot and cold.
 - .8 millwork counter tops with sinks and cove backsplashes.
 - .9 wireless charging unit.
- .2 Related Sections: Following description of work is included for reference only and shall not be presumed complete:
 - .1 Provision of general LEED® requirements: Section 01 33 29, General LEED® Requirements.
 - .2 Provision of general LEED® Product requirements: Section 01 60 13, LEED® Product Requirements.
 - .3 Waste management and disposal requirements: Section 01 74 19, Waste Management and Disposal.
 - .4 Provision of indoor air quality requirements: Section 01 81 19, Indoor Air Quality Requirements.

- .5 Provision of finish carpentry and architectural woodwork: Section 06 40 00, Architectural Woodwork.
- .6 Provision of elastomeric joint sealants: Section 07 92 00, Joint Sealants.
- .7 Provision of tile work: Section 09 30 00, Tiling.
- .8 Provision of wall coverings: Section 09 72 00, Wall Coverings.
- .9 Provision of plumbing and plumbing fixtures: [Division 22, Plumbing] [Mechanical].

1.2 REFERENCES

.1 Abbreviations and Acronyms:

- .1 LEED[®]: Leadership in Energy and Environmental Design; www.cagbc.org.
- .2 MDF: Medium Density Fibreboard.
- .3 SCAQMD: South Coast Air Quality Management District; www.aqmd.gov.
- .4 VOC: Volatile Organic Compound.

.2 Definitions:

- .1 Solid Surface: Non-porous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment.

.3 Reference Standards:

- .1 ANSI/NPA A208.2-09 - Medium Density Fiberboard (MDF) For Interior Applications
- .2 ASTM C920-14a - Standard Specification for Elastomeric Joint Sealants
- .3 ASTM D638-10 - Standard Test Method for Tensile Properties of Plastics
- .4 ASTM D785-08 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials
- .5 ASTM D790-10 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- .6 ASTM D5420-10 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact)

- .7 ASTM E84-14 - Standard Test Method for Surface Burning Characteristics of Building Materials
- .8 ASTM E228-11 - Standard Test Method for Linear Thermal Expansion of Solid Materials with a Push-Rod Dilatometer
- .9 ASTM G21-13 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi
- .10 ASTM G22-76(96) - Standard Practice for Determining Resistance of Plastics to Bacteria
- .11 ASTM G155-13 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
- .12 CSA B45.5-11/
IAPMO Z124-2011 - Plastic Plumbing Fixtures
- .13 CSA O115-M82 - Hardwood and Decorative Plywood
- .14 NFPA 255-06 - Standard Method of Test of Surface Burning Characteristics of Building Materials
- .15 NSF/ANSI 51-07 - Food Equipment Materials
- .16 SCAQMD Rule 1168 - Adhesive and Sealant Applications (amended January 2005)
- .17 CAN/ULC-S102-07 - Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies
- .18 UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials
- .19 UL Environment/
GREENGUARD –
UL 2818 - Standard for Chemical Emissions for Building Materials, Finishes and Furnishings, Section 7.1
- .20 UL Environment/
GREENGUARD -
UL 2818 - Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings, Section 7.1 and 7.2
- .21 UL 2824 - GREENGUARD Certification Program, Method for Measuring Microbial Resistance from Various Sources Using Static Environmental Chambers

1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Preinstallation Meetings: Arrange preinstallation meeting 1 week prior to commencing work with all parties associated with trade as designated in Contract Documents or as requested by Consultant. Presided over by Contractor, include Consultant who may attend, Subcontractor performing work of this trade, Owner's representative, testing company's representative and consultants of applicable discipline. Review Contract Documents for work included under this trade and determine complete understanding of requirements and responsibilities relative to work included, storage and handling of materials, materials to be used, installation of materials, sequence and quality control, Project staffing, restrictions on areas of work and other matters affecting construction, to permit compliance with intent of work of this Section.

1.4 SUBMITTALS

- .1 Product Data: Indicate Product description including solid surface sheets, sinks, bowls and illustrating full range of standard colours, fabrication information and compliance with specified performance requirements. Submit Product data with resistance to list of chemicals.
- .2 Shop Drawings: Submit Shop Drawings for work of this Section in accordance with Section 01 30 00. Indicate plans, sections, dimensions, component sizes, edge details, thermosetting requirements, fabrication details, attachment provisions, sizes of furring, blocking, including concealed blocking and coordination requirements with adjacent work. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacles and other items installed in solid surface.
- .3 Coordination Drawings: Submit coordination drawings indicating plumbing and miscellaneous steel work indicating locations of wall rated or non-rated, blocking requirements, locations and recessed wall items and similar items.
- .4 Samples: Submit samples in accordance with Section 01 30 00. Submit minimum 150 mm x 150 mm (6" x 6") samples. Cut sample and seam together for representation of inconspicuous seam. Indicate full range of colour and pattern variation. Approved samples will be retained as standards for work.

SPEC NOTE: NSF/ANSI 51, Food Zone, Splash Zone and Non-Food Zone, application where food may be dropped onto serving surfaces. Delete following if no food contact if no food contact is required for Project. Delete following on flammability if there is no requirement for fire performance.

- .5 Test and Evaluation Reports: Submit flammability test reports [and food preparation zone certifications/listing confirming compliance with NSF/ANSI 51. Refer to www.nsf.org for the latest compliance to NSF/ANSI 51 for Food Zone — all food types.]

1.5 CLOSEOUT SUBMITTALS

.1 Operation and Maintenance Data:

- .1 Submit manufacturer's care and maintenance data, including repair and cleaning instructions. Include in Project closeout documents.
- .2 Provide a commercial care and maintenance kit and video. Review maintenance procedures and warranty details with Owner upon completion.

1.6 QUALITY ASSURANCE

.1 Qualifications:

- .1 Installers: Provide work of this Section executed by competent installers with minimum 5 years' experience in the application of Products, systems and assemblies specified and with approval and training of the Product manufacturers.

.2 Mock-Ups:

- .1 Prior to final approval of Shop Drawings, erect 1 full size mock-up of each component at Project site demonstrating quality of materials and execution for Consultant review.
- .2 Should mock-up not be approved, rework or remake until approval is secured. Remove rejected units from Project site.
- .3 Approved mock-up will be used as standard for acceptance of subsequent work.
- .4 Approved mock-ups may remain as part of finished work.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Delivery and Acceptance Requirements: Deliver no components to Project site until areas are ready for installation.

.2 Storage and Handling Requirements:

- .1 Store components indoors prior to installation.
- .2 Handle materials to prevent damage to finished surfaces.

1.8 WARRANTY

.1 Manufacturer Warranty: Provide manufacturer's standard warranty for material only for period of 10 years against defects and/or deficiencies in accordance with General Conditions of the Contract. Promptly correct any defects or deficiencies which become apparent within warranty period, to satisfaction of Consultant and at no expense to Owner.

2 Products

2.1 MANUFACTURERS

.1 Manufacturer List: Products of following manufacturers are acceptable subject to conformance to requirements of Drawings, Schedules and Specifications:

- .1 Corian[®] by DuPont; www.corian.com
- .2 Samsung Chemical USA (excluding Tempest Series); www.staron.com
- .3 Wilsonart Contract (excluding 025 series); www.wilsonartcontract.com

.2 Substitution Limitations: This Specification is based on DuPont's Products. Comparable Products from manufacturers listed herein will be accepted provided they meet requirements of this Specification.

2.2 MATERIALS

.1 Description:

- .1 Sustainability Characteristics: Provide Products meeting following LEED[®] performance criteria:

SPEC NOTE: Use following in connection with LEED[®] Credit MR 4. It may be necessary to split following paragraph due to different Products within a particular Section having different recycling amounts (ie. In Section 09 21 16, gypsum board is 40% and steel is 25%). Edit accordingly.

- .1 MRc4: Provide Product with a combined minimum pre-consumer and post-consumer recycled content of [xx%].

SPEC NOTE: Use following paragraph if amount of recycled content is unknown, but desired for LEED[®] credit.

- .2 MRc4: Provide Product with maximum pre-consumer and post-consumer recycled content available.

SPEC NOTE: Use following in connection with LEED[®] Credit MR 5.

- .3 MRc5: Provide Product with regional content.

SPEC NOTE: Use following in connection with LEED[®] Credit EQ 4.1.

- .4 EQc4.1: Provide adhesives and sealants with VOC quantities lower than stated in SCAQMD Rule 1168. Ensure VOC quantities for sealants do not exceed 250 g/l under any circumstances.

SPEC NOTE: See Technical Bulletin K-26829 DuPont™ Corian® Performance Properties.

.2 Performance/Design Criteria:

Property	Requirement min or max	Test Procedure
.1 Solid Surface Based Products:		
.1 Tensile Strength	6000 psi min	ASTM D638
.2 Tensile Modulus	1.5 x 10 ⁶ psi min	ASTM D638
.3 Tensile Elongation	0.4% min.	ASTM D638
.4 Flexural Strength	10000 psi min	ASTM D790
.5 Flexural Modulus	1.2 x 10 ⁶ psi min	ASTM D790
.6 Hardness	>85-Rockwell "M" scale min.	ASTM D785
.7 Thermal Expansion	3.90 x 10 ⁻⁵ in./in./°C (2.2 x 10 ⁻⁵ in./in./°F)	ASTM E228
.8 Fungi and Bacteria	Does not support microbial growth	ASTM G21 & G22
.9 Microbial Resistance	Highly resistant to mould growth	UL 2824
.10 Ball Impact	No fracture - 1/2 lb. Ball: 1/4" slab - 36" drop 1/2"* slab - 144" drop * - approximate weight per sq ft	NEMA LD 3, Method 3.8
.11 Weatherability	ΔE* ₉₄ <5 in 1,000 hrs	ASTM G155
.12 Flammability		ASTM E84, NFPA 255 & UL 723
All Colours		
	1/4"	1/2"
.13 Flame Spread	<25	<25
.14 Smoke Developed	<25	<25
.15 Class	A	A
		NFPA 101®, Life Safety Code

.16 Industry standard is to use 12 mm (1/2") thick Products. 6 mm (1/4") thick Product is used vertically only. Contact manufacturer's rep. for 19 mm (3/4") thick Product and Product data and panel size limitations.

.3 Solid Surface Material:

.1 Non-porous, homogeneous material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment; not coated, laminated or of composite construction; meeting following criteria:

.1 Flammability: Flame Spread Index: 0 and Smoke Development Index: 5 when tested to CAN/ULC-S102.

SPEC NOTE: Verify compliance with this requirement when used in food preparation and local authority requirement.

.2 Food Equipment Material Compliance: Food Zone to NSF/ANSI 51.

.2 Ensure material has minimum physical and performance properties specified under "Performance/Design Criteria".

.3 Ensure superficial damage to a depth of 0.25 mm (0.010") is repairable by sanding and polishing.

.4 Adhesive for Bonding to Other Products: One component silicone to ASTM C920.

.5 Sealant: A standard mildew-resistant, FDA/UL[®] [and NSF/ANSI 51 compliant in Food Zone area,] recognized silicone colour coordinated sealant or clear silicone sealants.

SPEC NOTE: Retain following paragraph for undermount sinks and bowls.

.6 Sink/Bowl Mounting Hardware: Manufacturer's approved bowl clips, brass inserts and fasteners for attachment of undermount sinks/bowls.

SPEC NOTE: Check whether cut outs are near a heat source; if not delete following 2 paragraphs.

.7 Heat Reflecting Tape: Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.

.8 Insulating Nomex[®] fabric: Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.

2.3 COMPONENTS

SPEC NOTE: Refer to Technical Bulletin K-25291 – Structural Support.

.1 Window Sills: 12 mm (1/2") thick solid surface material, adhesively joined with inconspicuous seams, edge details as indicated on Drawings. Colour selected later by Consultant from manufacturer's full colour range.

- .2 Counter Perimeter Frame: Ensure 12 mm (1/2") [19 mm (3/4")] thick, moisture resistant [cores for counter tops in wet areas having sinks or lavatories are 19 mm (3/4") thick exterior grade plywood with waterproof adhesive, CSA O115-M (G/SO) Fir or Poplar plywood, veneer core only.] [Moisture Resistant MDF core conforming to ANSI/NPA A208.2 balanced design, manufactured from recycled materials, meeting ANSI Standards for emissions, of minimum density of 770 kg/m³, (48 lb/cu ft) and surface character to match sample approved by Consultant. Ensure fire retardant Product contains fire-retardant chemicals injected with raw materials during manufacturing and achieves a maximum flame-spread rating of 25 with a maximum smoke development of 200 when tested to ASTM E84. Acceptable Product by Uniboard Canada or The Canfibre Group Limited.]

SPEC NOTE: Refer to Technical Bulletins K-25296 – Sinks and Lavatories and K-27499 – DuPont™ Corian® Lavatory positioning for ADA Compliance.

SPEC NOTE: Select desired colour from manufacturer's latest catalogue or indicate colour(s) will be selected later by Consultant (Verify if any cost implication due to variation in colours).

- .3 Lavatory Tops with Hard Seamed Bowls: 12 mm (1/2") thick countertop of solid surfacing material with a bowl made from solid surfacing material, cast to desired profiles and sizes having edge details as indicated on Drawings conforming to CSA B45.5/IAPMO Z124, complete with seamed "S" undermount bowl. Provide countertops complete with backsplashes of size shown on Drawings. Ensure countertop and backsplash is [] colour; [single colour] [maximum 2, 3 or 4 colours] [non-coved] [coved] as selected by Consultant. Ensure bowls are [] model. Select desired colour from manufacturer's latest catalogue or indicate colour(s) will be selected later by Consultant. (Verify if any cost implication due to variation in colours.)
- .4 Lavatory Tops with Undermount Bowls: 12 mm (1/2") thick countertop of solid surfacing material with a bowl made from solid surfacing material, cast to desired profiles and sizes having edge details as indicated on Drawings conforming to CSA B45.5/IAPMO Z124, complete with [1] undermount bowl. Provide countertops complete with backsplashes of size shown on Drawings. Use undermount hardware according to manufacturer's instructions. Ensure vanity top and backsplash is [] colour; [single colour] [maximum 2, 3 or 4 colours] [non-coved] [coved] as selected by Consultant. Ensure bowl[s] is/are [] model and [] colour.
- .5 Lavatory Tops with Integral Bowls: Moulded countertop of solid surfacing material [500 mm (19-1/2")] [560 mm (22")], complete with integrally molded bowl[s] of 100% acrylic solid surface material; edge details as indicated on Drawings. Provide with [non-coved] [coved] backsplash [and endsplashes] as shown on Drawings. Provide [] model and [] colour.

SPEC NOTE: Refer to Technical Bulletin K-28310 DuPont™ Corian® Charging Unit – Individual: Corian® Installation

- .6 Wireless Charging Unit: A complete, self-contained system with a dual-mode transmitter that is compliant with PMA and WPC Qi standards.

.1 Acceptable Product: “DuPont™ Corian® Charging Unit – Individual” by DuPont.

.7 Fabrication:

- .1 Fabricate components in shop to greatest extent practical to sizes and shapes indicated, in accordance with approved Shop Drawings and solid surface manufacturer requirements. Form joints between components to create inconspicuous seams, using manufacturer’s standard joint adhesive. Provide factory cutouts for plumbing fittings and bath accessories as indicated on Drawings.
- .2 Where indicated, thermoform corners and edges or other objects to shapes and sizes indicated on Drawings, prior to seaming and joining. Cut components larger than finished dimensions and sand edges to remove nicks and scratches. Heat entire component uniformly prior to forming.
- .3 Ensure no blistering, whitening and cracking of components during forming.
- .4 Fabricate backsplashes from solid surfacing material with optional radius cove where counter and backsplashes meet as indicated on Drawings. Backsplashes for most colours may be fabricated by traditional means discussed in K-25294 *Backsplashes*. Colours with metallic/mica particle or veined colours creating directional aesthetics (K-26833 *Directional Aesthetics*) may require the techniques in Technical Bulletin K-28235 *Thermoformed Backsplash*.
- .5 Fabricate joints between components using manufacturer’s standard joint adhesive. Ensure joints are inconspicuous in appearance and without voids. Attach 50 mm (2") wide reinforcing strip of solid surface material under each joint. Reinforcing strip of solid surface material is not required when using DuPont™ Joint Adhesive 2.0.
- .6 Provide holes and cutouts for plumbing and bath accessories as indicated on Drawings.
- .7 Rout and finish component edges to a smooth, uniform finish. Rout cutouts, then sand edges smooth. Repair or reject defective or inaccurate work.

SPEC NOTE: Select desired finish or where more than 1 finish is required, ensure locations of different finishes are identified on Drawings.

.8 Finish: Ensure surfaces have uniform finish:

SPEC NOTE: Following is standard finish and is lowest maintenance finish.

- .1 Matte, with a 60° gloss rating of 5 - 20.

SPEC NOTE: Following adds an up-charge. Select semi-gloss to bring out the depth of colours in the darker Sierra and Jewel tones. Will require more maintenance.

- .2 Semi-gloss, with a 60° gloss rating of 25 - 50.

SPEC NOTE: Following is a high gloss finish, ideal for applications that require maximum smoothness and reflectance. Recommended for light duty only. Will require more maintenance.

.3 Polished, with a 60° gloss rating of 55 - 80.

.9 Fabrication Tolerances:

.1 Variation in Component Size: +/-3 mm (+/-1/8").

.2 Location of Openings: +/-3 mm (+/-1/8") from indicated location.

3 Execution

3.1 EXAMINATION

.1 Verification of Conditions:

.1 Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work. Proceed with installation only after unsatisfactory conditions have been corrected.

.2 Verify actual site dimensions and location of adjacent materials prior to commencing work.

.3 Examine cabinets upon which counter tops are to be installed. Verify cabinets are level to within 3 mm in 3 m (1/8" in 10' - 0").

.4 Notify Consultant in writing of any conditions which would be detrimental to installation.

.2 Evaluation and Assessment: Commencement of work implies acceptance of previously completed work.

3.2 INSTALLATION

.1 Install components plumb, level, rigid, scribed to adjacent finishes in accordance with reviewed Shop Drawings and Product installation details.

.2 Fabricate field joints using manufacturer's recommended adhesive, with joints being inconspicuous in finished work. Exposed joints/seams are not permitted. Keep components and hands clean when making joints. Reinforce field joints as specified herein. Cut and finish component edges with clean, sharp returns.

.3 Route radii and contours to template. Anchor securely to base component or other supports. Align adjacent components and form seams to comply with manufacturer's written recommendations using adhesive in colour to match work. Carefully dress joints smooth, remove surface scratches and clean entire surface.

- .4 Install countertops with no more than 3 mm (1/8") sag, bow or other variation from a straight line.
- .5 Adhere undermount/submount/bevel mount sinks/bowls to countertops using manufacturer's recommended adhesive and mounting hardware.
- .6 Adhere topmount sinks/bowls to countertops using manufacturer recommended adhesives and colour-coordinated silicone sealant. [Secure seam mount bowls and sinks to counter tops using colour-coordianted joint adhesive.]
- .7 Seal between wall and components with joint sealant as specified herein and in Section 07 92 00, as applicable.
- .8 Provide backsplashes and endsplashes as indicated on Drawings. Adhere to countertops using a standard colour-coordinated silicone sealant. Adhere applied sidesplashes to countertops using a standard colour-coordinated silicone sealant. Provide covered backsplashes and sidesplashes at walls and adjacent millwork. Fabricate radius cove at intersection of counters with backsplashes to dimensions shown on reviewed Shop Drawings. Adhere to countertops using manufacturer's standard colour-coordinated joint adhesive.
- .9 Keep components and hands clean during installation. Remove adhesives, sealants and other stains. Ensure components are clean on date of Substantial Performance of the Work.
- .10 Coordinate connections of plumbing fixtures with [Division 22] [Mechanical]. Make plumbing connections to sinks in accordance with [Division 22] [Mechanical].

3.3 REPAIR

- .1 Repair minor imperfections and cracked seams and replace areas of severely damaged surfaces in accordance with manufacturer's "Technical Bulletins".

3.4 SITE QUALITY CONTROL

- .1 Non-Conforming Work: Replace damaged work which cannot be satisfactorily repaired, restored or cleaned, to satisfaction of Consultant at no cost to Owner.

3.5 CLEANING

- .1 Remove excess adhesive and sealant from visible surfaces.
- .2 Clean surfaces in accordance with manufacturer's "Care and Maintenance Instructions".

3.6 PROTECTION

- .1 Provide protective coverings to prevent physical damage or staining following installation for duration of Project.

.2 Protect surfaces from damage until date of Substantial Performance of the Work.

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END OF SECTION