

1. PRODUCT NAME

Corian® Solid Surface

2. MANUFACTURER

E.I. du Pont de Nemours and Company Corian® Products

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3. PRODUCT DESCRIPTION

Basic Use:

Corian® is an advanced composite product used as a decorative material in a variety of residential and commercial applications. Corian® offers design versatility, functionality and durability. Supplied in sheets and shapes, it can be fabricated with conventional woodworking tools into virtually any design. Corian® is the original solid surface material only made by DuPont. It is widely accepted as a material for countertops, vanity tops, tub/shower walls, kitchen sinks, vanity basins, laboratory bench tops in numerous markets like: lodging, healthcare, banks, boutiques, restaurant and many others.

Composition:

Corian® is a solid, non-porous surfacing material homogeneously composed of $\pm 1/3$ acrylic resin (also known as PolyMethyl MethAcrylate or PMMA), and $\pm 2/3$ natural minerals. These minerals are composed of Aluminium TriHydrate(ATH) derived from bauxite, an ore from which aluminium is extracted.

For more information on the composition of the material, please consult the Corian® Material Safety Data Sheets (MSDS) available via the www.corian.com site or the secured www.corianenterprise.com site or via your local supplier.

Standard products:

Corian® Sheets – Available in various standard thicknesses, easily cut to size by professional fabricators. All colours are available in 12.3 x 760 x 3680 mm sheets. Many are available in the other sizes. Check with a Corian® supplier for the latest product availability.

- **6 mm sheet:** 760 x 2490 mm
930 x 2490 mm
- **12.3 mm sheet:** 760 x 3680 mm
930 x 3680 mm
- **19 mm sheet:** 760 x 3680 mm

Corian® Shape Products – A range of vanity basins is available for custom integration into a Corian® sheet. For other wet areas, there is a good range of single and double bowl sinks that work well in kitchens, wet bars or small wash-up areas, hospitals or laboratories. Each carton contains care guidelines and installation instructions. Seamed undermounting and bevel mounting techniques eliminate rims that trap dirt and water, minimising cleaning and maintenance costs. Appropriate accessory products, including installation hardware, are available and recommended for residential kitchens only. For complete product information refer to the www.corian.com website.

The colours of Corian®:

The colours of Corian® allow for an almost unlimited working palette. One can choose a single colour; a neutral basis for design; or experiment with eye-catching harmonies. Corian® can also be used as inlays, accents, or as a versatile complement with other materials like metal, wood, stone, etc. To help in the selection process, the colours of Corian® are arranged by hue in sub-palettes.

- **Extra lights**
- **Beiges**
- **Naturals**
- **Warms**
- **Yellow greens**
- **Greens**
- **Blues**
- **Brights**
- **Greys**
- **Extra darks**



This Spec-Data sheet conforms to editorial style prescribed by The Construction Specifications Institute. The manufacturer is responsible for technical accuracy.

For complete information on colours, refer to the current Corian® COLOUR leaflet or to the www.corian.com website. Hues, patterns and textures are related by style and character. Please note that some dark Corian® colours are more sensitive and require more maintenance than lighter colours and should only be used in low traffic areas or as accent features.

Limitations:

Do not use Corian® where common sense would deem it unsafe. It is not recommended for below-grade wall applications. Take care to avoid installations where moisture could be trapped behind it. There are special considerations for installation in masonry construction. Contact a local DuPont™ Corian® distributor or fabricator or call the Corian® Information Centre for more information. Although Corian® can withstand high temperatures, it should be protected with hot pads or heat shields. Use of 6 mm sheet should generally be restricted to vertical applications only. The choice between 12.3 mm and 19 mm is generally based on aesthetic, performance and cost considerations. Consult a local Corian® specialist for assistance. Corian® is a mineral-filled material, and like natural materials, some slight colour variation may exist from sheet to sheet, sheet to bowl, or bowl to bowl. Corian® is non-porous so spills and stains will not be absorbed into the surface. However, some chemicals can stain or damage the surface of Corian®. These chemicals include strong acids (like concentrated sulphuric acid), ketones (like acetone), chlorinated solvents (like chloroform) or strong solvent

combinations (like paint remover). The extent of the damage will depend on the length of contact. Except for paint remover, short periods of contact usually will not severely damage Corian®. Acid drain cleaners should not be used as they can damage both Corian® and any plastic plumbing beneath. Corian® is not recommended for use in photographic processing laboratories since used developer stains on Corian® will require abrasive removal which may generate dust. More information on the chemical resistance of Corian® is shown in table 2. In some hospitals and laboratories, tops and other applications where strong disinfectants come in contact with Corian®, it is recommended to use solid colours and prevent these chemicals to permeate around the large particles.

4. PERFORMANCE PROPERTIES AND CHARACTERISTICS:

Typical performance properties of Corian® are shown in table I. The performance of Corian® sheets may vary according to the thickness of the material (6 mm, 12.3 or 19 mm), its aesthetics (solid colours versus sheets with patterns made of small and/or large particles) and surface finish (sanding and polishing conditions).

Since its introduction in 1967, Corian® has proven itself to be remarkably durable, versatile material that is easy to live with in both the home and commercial environments.

Colours and patterns run through the entire thickness of the material and cannot wear away nor delaminate.

Joints can be glued inconspicuously, making virtually unlimited surfaces possible.

Corian® surfaces are renewable, meaning they can be fully restored with ordinary mild abrasive cleansers and a scouring pad. Cigarette burns, for example, can be easily removed in this way. Damage caused by abuse can usually be repaired on site without having to replace completely the Corian® material.

Corian® surfaces are hygienic. Because it is a non-porous material, bacteria and mould cannot be trapped and proliferate in the joints nor underneath the surface.

Corian® is an inert and non-toxic material. Under normal temperature conditions, it does not emit gases. When burned, it releases mainly carbonic gas and the smoke generated is optically light and does not contain toxic halogenated gases. Because of these properties, Corian® is used in public spaces and delicate applications such as airport check-in counters, wall and work surfaces in hospitals and on cruise ships and ferries.

Corian® can be thermoformed in plywood or metal moulds at controlled temperatures. Various objects like bathroom vanities and other 2D and 3D designs can be created.

The translucent Corian® look is especially striking in the lighter colours and the 6 mm white sheets. Many designers are using it in the design of lamps and wall cladding.

Inlaying Corian® with different materials or with different colours of Corian® is possible and can enhance the inherent beauty of the material. Inlays and logos can also be created by printing on Corian® using, for instance, a dye sublimation digital printing process.

DuPont can manufacture Corian® sheets in which colour, pattern and dimension are customised within the manufacturing capability limits and based on a minimum order quantity.

5. INSTALLATION

Detailed information on installing Corian® is available in the Corian® installation booklet or on the secured www.corianenterprise.com website.

Joints :

To minimise material and facilitate installation, corner joints should be made square (butt) rather than mitred. All Corian® joints should be reinforced. The edges to be joined should be straight, smooth and clean. Joints should only be made with "Joint Adhesive for DuPont Corian®". Make cutouts with a router equipped with a sharp 9.5 mm diameter (minimum) carbide bit. Corners of a cutout must be rounded to 5 mm radius and edges smoothed, top and bottom, all around a cutout. L- and U- shaped corners need smooth, 13 mm radius inside corners. For hob cutouts corners should be reinforced with a Corian® corner block.

Sealants and Adhesives:

Corian® is compatible with many commercially available caulks and sealants. However, a specially developed FDA-listed silicone sealant sold by DuPont or its distributors should be used to achieve the best performance and colour match. Vertical panels of Corian® may be installed over suitable substrates, including water-resistant gypsum board, marine-grade plywood and ceramic tiles. Use "Silicone Sealant" for DuPont Corian® whenever low flamespread is required. In other cases, light coloured elastic polyurethane adhesive or Type I (ANSI A 136.1-1967) elastic solvent-based spread mastic adhesives may also be used. DO NOT USE WATER-BASED ADHESIVES. Install countertops on perimeter framing support (without added substrate) using small amounts of silicone sealant. For making joints in countertops, repairs and custom edges, "Joint Adhesive for DuPont Corian®" is required. When used in accordance with manufacturer's instructions, it provides a smooth

and inconspicuous joint. Repairs, while sound and fully functional, can be expected to be slightly visible. Joint Adhesive is available wherever Corian® is sold. Joint Adhesive can also be used to add decorative inlay designs into horizontal and vertical Corian® surfaces. Check with a local Corian® specialist for details.

Clearances:

The recommended expansion clearance with UN-caulked Corian® joints is minimum $30.5 \times 10^{-6} \times$ (length of the Corian® piece) \times (biggest temperature range expected in °C) in mm. Joints to be caulked should be approximately 3 mm wide to allow satisfactory caulk penetration and expansion.

Precautions:

Product dimensions are nominal. If tolerances are critical, review your needs with a local Corian® Distributor.

6. AVAILABILITY AND COST

Availability:

Corian® and accessory products are readily available through a worldwide network of Corian® Distributors, and Quality Network Fabricators/Installers. Please check the Yellow Pages or call the Corian® Information Centre for the name of a local distributor or visit the Corian® website (www.corian.com).

Cost:

Cost varies with thickness and width as well as custom fabrication and installation details. Contact the Corian® Information Centre for the names of Authorised Dealers, Fabricators/Installers, who can submit price information.

7. WARRANTY

Ten-Year Warranties:

DuPont offers Corian® with two levels of warranty protection. The limited "Product" warranty is standard for all Corian® products and ensures that all products will be free from manufacturing defects for a period of 10 years after purchase. A higher level of protection, the 10 year limited "Installed" warranty, is available through Quality Network Corian® Fabricators. This "Installed" warranty expands the "Product" warranty to ensure that both the fabrication and the installation of the finished product will also be free from defect. With two levels of warranty protection available, you can value engineer warranty coverage for each project. Feel free to discuss your needs with your local Corian® specialist.

8. MAINTENANCE

Preventing Damage to Corian®:

Avoid prolonged exposure to strong chemicals such as acids, bases, and organic solvents. Spills should be cleaned up promptly. Refer to attached Table 2 for additional details regarding chemical exposures, clean up, and general maintenance. In case of exposure outside the specifications listed in table 2, the 10 year limited product warranty will be void and handled as a case of abuse. While unaffected by minor impacts, Corian® can be damaged by heavy impacts, especially from pointed objects. Corian® can also be damaged by excessive heat. Your local Corian® specialist can help you include appropriate heat management into your designs.

Repairing Corian®:

Corian® provides superior value by being inconspicuously repairable. Minor cuts, scratches, and stains can be removed by owners using fine sandpaper and Scotch-Brite™ pads.

Deeper gouges or impact damage such as cracks may require a Corian® licensed Service Centre or a Corian® Quality Network Member to make inconspicuous repairs.

9. TECHNICAL SERVICES

Detailed material specifications for Corian® can be found on the www.corianenterprise.com website.

10. ADDITIONAL INFORMATION

DuPont has many bulletins which give additional information about Corian® and its properties, including radioactive compound and HIV (AIDS virus) cleanup in healthcare facilities. Also available are bulletins, which detail fabrication, installation, repair, and proper use of accessories. Please visit the www.corianenterprise.com site for more information. Corian® waste is non-hazardous. In Germany it fits waste category 57 129.

11. LEGAL

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge and experience becomes available, since we cannot anticipate all variations in actual end-use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent right.

TABLE 1 : PERFORMANCE PROPERTIES OF CORIAN® PRODUCTS

PROPERTY	TEST METHOD	TYPICAL RESULTS		UNITS	*
		6 mm sheet	12.3 mm sheet		
Density	DIN ISO 1183	1.73 – 1.76	1.68 – 1.75	g/cm ³	1
Flexural modulus	DIN EN ISO 178	8920 – 9770	8040 – 9220	MPa	1
Flexural strength	DIN EN ISO 178	49.1 – 76.4	57.1 – 74.0	MPa	1
Elongation	DIN EN ISO 178	0.58 – 0.94	0.76 – 0.93	%	1
Compressive strength	EN ISO 604	178 – 179	175 – 178	MPa	1
Resistance to impact (spring load)	DIN ISO 4586 T11	> 25	>25	N	1
Resistance to impact (ball drop)	DIN ISO 4586 T12	> 120	>120	cm	1
Hardness of Surface (Mohs index)	DIN EN 101	2-3	2-3		1
Resistance to surface wear	DIN ISO 4586 T6	63 – 75	58 – 63	Lost weight mm ³ /100 rev.	1
Resistance to immersion in boiling water	DIN ISO 4586 T12	0.1 – 0.7	0.1 – 0.3	% by weight	1
Resistance to bacteria and fungi	DIN EN ISO 846	Does not support microbial growth			9
Anti-slip properties-with 100 µm grit	DIN 51130:1992-11	5.8° – do not pass R9 requirement (6° min)		° angle	2
Anti-slip properties-with 120 µm grit	DIN 51130:1992-11	7.6° – pass R9 requirement (6° min)		° angle	2
Anti-slip properties-with 150 µm grit	DIN 51130:1992-11	8.1° – pass R9 requirement (6° min)		° angle	2
Dimensional stability at 20°C	DIN ISO 4586 T10	< 0.16	< 0.16	% change in length	1
Resistance to dry heat-180°C	DIN ISO 4586 T8	4/5-slight change	4/5-slight change		1
Lightfastness (Xenon arc)	DIN ISO 4586 T16	> 6	> 6	Blue wool scale	1
Toxicity of emitted gases	NF F 16-101		Class : F 0		3
Heat of combustion	NF EN ISO 1716		9.15	KJ/g	4
Reaction to fire	NF F 70 100		Class M2		5
Fire classification (Corian®)	DIN EN 13501-1:2002	Euroclass C –s1,d0	Euroclass C –s1,d0		7
Fire classification (Corian® FR)	DIN EN 13501-1:2002		Euroclass B –s1,d0		7
Fire behaviour (Corian® FR)	DIN 4102-01		Class B1		8
Fire tests (Corian®)	BS 476 part 6 & 7		Class 1		7
Electrostatic surface behaviour	DIN IEC 61 340-4-1		> 1 x 10 ¹²	Ω	3

(1) test certificate O IWQ MBL 734 1109785-C from LGA –Germany/03-2004

(2) test certificate BMW 0411048-03 from LGA-Germany/03-2004

(3) test certificate 1163104 from SNPE-France/03-2004

(4) test certificate 1162404 from SNPE-France/03-2004

(5) test certificate 1162504 from SNPE-France/03-2004

(6) test certificate IWQ-MBL from LGA-Germany/03-2004

(7) test certificate from Warrington Fire research-UK/2002

(8) registration # P-MPA-E-02-571 from MPA NRW-Germany/2002

(9) test certificate 5642219E from LGA-Germany 03/2004

CLASS I reagents

The following reagents show no permanent affect on CORIAN® sheet when left in contact for periods of 16 hours.

The chemical residues can be removed with a **wet Scotch-Brite™ pad and bleaching cleanser.**

Sometimes, minimal effects have been observed, particularly those indicated by footnotes (*).

TABLE 2: CHEMICAL RESISTANCE OF CORIAN® PRODUCTS

- | | | |
|---|---|---|
| <ul style="list-style-type: none">• Acetic Acid (10%)• Acetone**• Acrodine Orange• AG Eosin Blue (5%)• AG Gentian Violet• Ammonia (10%)• Ammonium Hydroxide (5, 28%**)• Amyl Acetate• Amyl Alcohol• Aromatic Ammonia• Ball Point Pen• Benzene**• "Betadine" Solution• Bite Registration Accelerator (2% Eugenol)• Bite Registration Base• Bite Registration Mix (50/50)• Bleach (Household Type)• Blood• B-4 Body Conditioner• Butyl Alcohol• Carbon Disulphide• Carbon Tetrachloride***• "Cavity" in Phenol• Citric Acid (10%)• Caulk IRM (with or w/o ZnO)• Calcium Thiocyanate (78%)• Cigarette (Nicotine)• Coffee• Cooking Oils• Copalite Intermediary Varnish• Cotton Seed Oil• Crystal Violet• Cupra Ammonia• Debacterol• Dimethyl Formamide• Dimethylene Blue• Dishwashing Liquids/Powders• "Dry Bond" Dental Adhesive• Eosine• Equalizing Accelerator (23% Eugenol)• Equalizing Base• Ethyl Alcohol (Ethanol)**• Ethyl Acetate• Ethyl Ether**• Eucalyptol | <ul style="list-style-type: none">• "Eugenol" (with or w/o ZnO)• Ferric Chloride• "Fisher" Formaldehyde (40%)• Food Colouring• Formaldehyde• Gasoline• Gentian Violet• Hair Dyes• Household Soaps• Hydrochloric Acid (20, 30%)• Hydrogen Peroxide• Introfiant Arterial Chemical• Iodine (1% in alcohol)***• "Kelviscera" Cavity• Kerosene• Ketchup• Lemon Juice• Lipstick• Liquid shoe polish• "Luralite" Accelerator (16% Eugenol)• "Luralite" Base• Lye (1%)• "Lysol" Brand Cleaner• Mercurochrome (2% in water)***• Methanol**• Methyl Ethyl Ketone• Methyl Orange (1%)• Methyl Red (1%)• Mineral Oil• Munsel's Solution• Mustard• Nail Polish• Nail Polish Remover (Acetone)• Naphthalene (Naphtha)• Neotopanel• n-Hexane• Nitric Acid 6%• Olive Oil• Pencil Lead• Perchloric Acid• Permaflow Preinjection• "Permaglow" Arterial Fluid• Permanent Marker Ink• Peroxide• Phenolphthalein (1%)• Phosphorus Pentoxide | <ul style="list-style-type: none">• Picric Acid• "Procaïne"• Potassium Permanganate (2%)• Restorative Anti-dehydrant• Saffron• Salt (Sodium Chloride)• Shoe Polish• Silica Dental Cement (liquid)• Silver Nitrate (10%)• Soapless Detergents• Sodium Bisulphate• Sodium Hydroxide Solution (5, 10, 25, 40%**)• Sodium Hydroxide Flake**• Sodium Hypochlorite (5%)• Sodium Sulphate• Solitine solvent• Soy Sauce• Sugar (Sucrose)• Sulphuric Acid (25, 33, 60%)• Tannic Acid• Tea• Tetra Hydrofuran• Tetramethyl Rhodamine Isothiocyanate• "Thymol" in Alcohol• Tincture of Iodine• Tincture of Mercurochrome• Tincture of Merthiolate• Toluene***• Tomato Sauce• Trichloroethane• Trisodium Phosphate (30%)• Trypan Blue• Urea (6%)• Uric Acid• Urine• Vinegar• Washable inks• Wine (all varieties)• Wright's Stain• Xylene• Zephiran Chloride• Zinc Chloride• Zinc Oxide (paste, ointment) |
|---|---|---|

* May cause surface etching or deglossing after 16 hours exposure

** May cause slight lightening after 16 hours exposure

*** May cause slight darkening after 16 hours exposure

CLASS II reagents

Corian® is not recommended for working areas where CLASS II reagents may come in contact with Corian®.

The 10 Year Limited Installed and Product warranty does NOT apply where class II reagents come in contact with Corian®.

The occasional stain that might result from inadvertent exposure to Class II reagents can often be removed. Scrubbing with household cleanser will remove light stains. More stubborn surface stains will require sanding with fine to coarse sandpaper.

The following residues may require sanding for complete removal:

- Acetic Acid (90, 98 %)
- Acid Drain Cleaners
- Aqua Regia Cleaner
- Chlorobenzene
- Chloroform (100 %)
- Chromic Trioxide Acid
- Cresol
- Dioxane
- Ethyl Acetate
- Equalizing Mix (50/ 50)
- Formic Acid (50, 90 %)
- Furfural
- Glacial Acetic Acid
- Giemsa
- Hexaphene Autopsy/Viscera Treatment
- Hydrofluoric Acid (48 %)
- Luralite Mix (50/ 50)
- Methylene Chloride Based Products
 - Paint Removers
 - Brush Cleaners
 - Some Metal Cleaners
- Nitric Acid (25, 30, 70 %)
- Phenol (40, 85 %)
- Phosphoric Acid (75, 90 %)
- Photographic Film Developer (used)
- Sulphuric Acid (77, 96 %)
- Trichloroacetic Acid (10, 50 %)

SPECIALISED PRODUCTS

Biochemistry staining agents

in most instances will stain Corian® after a few minutes exposure. However, the stains are generally removable by prompt scrubbing with acetone as indicated below.

- Giemsa
- Trypan Blue - Stains removed with acetone
- Acridine Orange
- Safranin
- Crystal Violet - Stain incompletely removed with acetone

The following **dental treatment materials** will degloss, etch, or slightly stain Corian® Surfaces. Affected areas may be restored by scrubbing with a Scotch-Brite™ cleaning pad.

- Copalite Intermediary Varnish
- Caulk IRM (with or without ZnO)
- Eugenol (with or without ZnO)
- Luralite accelerator (16 % Eugenol)
- Luralite base
- Solitine solvent
- Equalizing accelerator (23 % Eugenol)
- Equalizing base
- Bite registration base
- Bite registration accelerator (2 % Eugenol)
- Bite registration mix (50/50)

Stains caused by the following dental treatment materials may require light to moderate sanding for removal:

- Luralite mix (50/50)
- Equalizing mix (50/50)

Note:

- *Products that are not listed may be similar to the ones that are. Please compare the ingredients listed on their label or in their Material Safety Data Sheet to the ones mentioned.*
- *The published data are for 16 hours exposure time. In reality exposure can be much longer. A leaking hand-soap dispenser may cause a liquid puddle under it for weeks and months. Or, some containers have poorly designed spouts/caps from which product leaks every time they are used, so that they stand constantly in their spill. If needed, a drip cup or a spill tray in a suitable material would address these situations.*
- *The resistance to staining of Joint Adhesive is slightly less than that of Corian® sheet and shape.*
- *Our draining accessories are recommended for residential kitchens only!*