

PRODUCT QUALITY INSPECTION

INTRODUCTION

This fabrication bulletin discusses the product quality inspection of DuPont™ Corian® solid surface and accessories.

OVERVIEW

Visual inspection for defects or color match is essential when working with DuPont™ Corian® solid surface products and is standard good trade practice.

The following simplified product specifications are given to you as a reference tool.

The continuous improvement programs of our manufacturing processes and controls will result in upgrades in our product specifications and narrowing of our tolerances.

HELPFUL HINTS:

Do not work with product that will greatly increase the amount of fabrication required due to defective material.

Call your Authorized Distributor of DuPont™ Corian® solid surface products for assistance whenever you are unsure of raw material quality. Be prepared to give the manufacturer's product identification code and at least one sequence number from the suspect sheet.

DuPont will replace any Corian® solid surface material not conforming to product specifications when delivered. However, DuPont will not pay for labor costs for any fabrication done on defective material.

A. DUPONT™ CORIAN® SHEET INSPECTION

The table below lists the different items you should look for when you make a visual inspection of DuPont™ Corian® solid surface sheets.

Table A-1

Corian® Sheet Inspection – Items to Look For	Specification
broken	–
cracks	–
sheet/sheet color match	A.1
color inconsistency within sheet	A.2
particles pattern irregularity	A.3
length/width/square	A.4
thickness	A.5
tapered edge	A.6
length warp	A.7
warp: smiles/frowns	A.8
black spots/white spots	A.9
face-side pinholes/voids/ripples	A.10
underside pinholes/voids/ripples	A.11
edge cracks/chips	A.12

A.1. DuPont™ Corian® Sheet Color Match

An essential element to sheet inspection is checking for color match.

The composition of Corian® solid surface produces slight color variations between production cycles due to the innate and complex blending of natural minerals and man-made acrylic. This characteristic is inherent in the product, hence the strict guidelines set forth below.

DuPont does not guarantee color match. It is up to the fabricator to insure acceptable color match between sheets.

Color match can be enhanced in three ways:

1. By conducting a trial color match.
2. By using sheets from the same pallet.
3. By checking that the product identification code printed on the underside or edge of all sheets is within a specified range. The marking varies by country of origin.

Steps to completion:

A. Trial Color Match

1. Cut a representative strip from the intended sheets to be seamed.
2. Seam these pieces together. Use cyanoacrylate glue for fast and simple adhesion.
3. Polish to intended finish.
4. Visually inspect the seam to ensure that exact color match is achieved.

B. Same Pallet.

Take all sheets for the job from the same pallet. Verify that the sheets are sequential.

C. Numbers on Sheets

DuPont™ Corian® solid surface is manufactured in several locations. The sheet labeling varies by country of origin.

United States

The United States label has two parts. The product identification code is a six digit alphanumeric code of the format #A##AA. The sequence number consists of seven numeric digits, #####. On the back of the sheet the label is CC #A##AA SEQ NO #####, where CC is the color code. Illuminations series sheets are not labeled on the back of the sheet, only on the edge, where only the color code and sequence number are provided. Check that the digits of the sequence number are within ±50 numbers of each other.

Japan

The Japan label has two parts. The product identification code is a six digit alphanumeric code of the format #####A. The sequence number consists of five numeric digits, #####. Check that the digits of the sequence number are within ±50 numbers of each other.

Korea

The Korea label has a single code in two parts separated by a hyphen. The code is an alphanumeric code of the format ##A##A##-##. The last two numbers of the alphanumeric portion before the dash (in red) should be identical for optimum color match. Check that the last two digits of the alphanumeric portion preceding the hyphen are the same.

Using the appropriate criteria for the country of origin, confirm that all sheets to be seamed together meet the criteria provided.

In the case where the ink-jet number or label is missing from a sheet within a complete pallet, it is likely that the sheet will still be from the same batch as the others in the pallet. Complete a trial color match inspection before commencing a job using this sheet.

When the ink-jet number or label is present but does not fit within the specified range, a color match may still be possible. Complete a trial color match before beginning a job using this sheet.

HELPFUL HINTS:

Either leave the product identification codes on the sheets or record them for each job.

Never assume sheets will color match where product identification codes are missing. Always do a trial color match.

When completing a trial color match, complete final visual inspection in lighting conditions similar to that found on the job.

Never inspect in bright light such as direct sunlight.

If color match is found to be unsatisfactory after fabrication, yet the product codes are as per guidelines, contact your Authorized Distributor of DuPont™ Corian® solid surface products immediately.

A.2. Color Inconsistency within Sheet

Inspect the surface of solid colors for any color inconsistency. If blotches are apparent and cannot be worked out of the sheet, call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

Check for pattern irregularities in veined pattern sheets. If any obvious irregular distribution of veined pattern is visible to the eye, isolate the sheet for inspection by your Authorized Distributor of DuPont™ Corian® solid surface products.

Veined patterns are typically randomly distributed. Irregularities may include heavy bunching of veined pattern in any “lane” of the sheet. The veining in the Venaro and Private Collection series is random and does not repeat. The veining will vary from sheet to sheet. Special design and fabrication considerations may apply. Please refer to the *DuPont™ Corian® Solid Surface Product Fabrication Bulletin – Private Collection (K-25702)* for guidance.

Colors with metallic aesthetics have reflective particles. In the solid and particulate colors of this series, the appearance of the material changes when viewed from different angles or under different lighting. These colors have special design and fabrication considerations. Please refer to the *DuPont™ Corian® Solid Surface Product Fabrication Bulletin – Metallic Aesthetics* (K-25703) for guidance.

A.3. Particle Pattern Irregularity

Check for pattern irregularities in particulate color sheets. It is especially important to check the areas near the edges of the sheet.

If any obvious irregular distribution of particles is visible to the eye, isolate the sheet for inspection by your Authorized Distributor of DuPont™ Corian® solid surface products.

DuPont has engineered the particulate colors of Corian® solid surface to have random particle distribution throughout the sheet, including the thickness. Part of random distribution is that sometimes particles will congregate in one area or will be segregated in another. There is no way to predict this phenomenon, and DuPont feels it is one of the many beauties of Corian® solid surface. Since it is an end toward which DuPont strives, random particle distribution is considered neither a product nor a manufacturing defect.

Because of the acrylic resin used to make DuPont™ Corian® solid surface, particles slightly under the surface can be seen. Depending on how deep into the sheet particles may be, particles may appear to be different shades or to be different colors. Also since some colors have different size and color particles, some particles are more visible than others. These features are more examples of the beauty of Corian® solid surface and are not defects.

When making long seams for islands or peninsulas, the best pattern match might be obtained by butting edges from the same side of the pallet on consecutive sheets. If pattern match is off, try rotating one of the sheets 180°.

Inspect sheets and shape products carefully before using. DuPont replacement policy does not allow for labor on defective material.

A.4. Length and Width

Reference length and nominal length of DuPont™ Corian® sheets are the same. The real length of the sheet can vary between +1/2" (+13 mm) and -1/4" (-6 mm). The width can vary by ± 1/16" (1.5 mm).

Table A-2

Thickness	Nominal length	Length variation
1/4" (6 mm)	98" (2,490 mm)	97 3/4"-98 1/2" (2,483-2,502 mm)
1/2" (12 mm)	144" (3,658 mm)	143 3/4"-144 1/2" (3,651-3,664 mm)
3/4" (19 mm)	144" (3,658 mm)	143 3/4"-144 1/2" (3,651-3,664 mm)

A.5. Corian® Sheet Thickness

Reference and nominal thickness of DuPont™ Corian® sheets do vary depending on the color family.

Table A-3: Solid Colors

Nominal Thickness	Typical Thickness	Max. Variation
1/4" (6 mm)	0.250" (6.4 mm)	±1/32" (0.8 mm)
1/2" (12 mm)	0.472" (12 mm)	±1/32" (0.8 mm)
3/4" (19 mm)	0.750" (19 mm)	±1/32" (0.8 mm)

Table A-4: Particulate, Veined and Metallic colors

Nominal Thickness	Typical Thickness	Max. Variation
1/4" (6 mm)	0.235" (6.0 mm)	±1/32" (0.8 mm)
1/2" (12 mm)	0.472" (12 mm)	±1/32" (0.8 mm)
3/4" (19 mm)	0.735" (18.7 mm)	±1/32" (0.8 mm)

A.6. Tapered edge

Where edge taper greater than 3/64" (1.2 mm) exists and this taper cannot be merged into edging or other elements of the surface, call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.



Figure A-1

A.7. Length warp

Where warp is greater than 3/64" per 30" (1.2 mm per 760 mm) call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

A.8. Warp: "Smiles" and "Frowns"

Where a sheet deflects on the edges to the shape of a smile or alternatively a frown (i.e., up or down), greater than 3/64" (1.2 mm), call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

A.9. Face-side black and/or white spots

Where large groups of spots occur that clearly detract from the appearance of the solid color sheet, call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

Allowable Surface Defects: Contaminants i.e., black, white or colored particles that are visible against the background, smaller in diameter than the following are permitted:

Table A-5

Item	Fractions	Decimal (Inches)	Millimeters
Solid Colors	1/32"	0.031"	0.8
Particulate Colors	5/64"	0.078"	2.0

A.10. Face-Side Pinholes, Voids and/or Ripples

When minor scratches, pinholes, voids, ripples, bumps, etc., occur in the face side of the sheet, orbital sanding with 120-grit sandpaper for about 3 min/yd² (min/m²) might resolve the problem.

Corian® solid surface sheet is sold as a one-sided product. Irregularities in backside pattern or color are not manufacturing defects.

A.11. Underside Pinholes, Voids and/or Ripples

Pinholes and depressions less than 1/8" (3 mm) deep and 1/4" (6 mm) in diameter are considered as acceptable. The same applies for ripples and bumps less than 1/16" (1.5 mm) deep.

Where more serious irregularities occur, call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

A.12. Edge Cracks and/or Chips

Corner chips of 3/16" (5 mm) wide/deep from the nominal length and edge chips or nicks less than 3/16" (5 mm) wide/deep represent the allowance limit.

Where more important surface defects occur, call your Authorized Distributor of DuPont™ Corian® solid surface products for inspection and product replacement where required.

B. SINK AND LAVATORY SHAPE INSPECTION

The table below lists the different items you should look for when you make a visual inspection of the Corian® sinks and lavatories.

Call your Authorized Distributor of DuPont™ Corian® solid surface products for assistance whenever you are unsure of raw material quality.

Table B-1

Corian® Sink and Lavatory Sheet Inspection– Items to Look For	Specification
broken	–
cracks	–
incorrect labeling	–
color irregularity	B.1
overflow hardware kit	B.2
overflow accessories	B.3
bowl flange	B.4
black spots/white spots	B.5
physical non-uniformities	B.5
face-side pinholes/voids	B.5
bowl opening dimensions	B.6
drain holes	B.7
bad milling of top flange	B.8
bad milling of overflow	B.8

B.1. Color Irregularity

Check for color patches, flow lines or whitened areas.

B.2. Overflow Hardware Kit

For overflow hardware glued to the Corian® bowl, check if the fitting is loose or broken.

For overflow hardware detached from the Corian® bowl, check if the fitting is broken or missing from the package.

B.3. Overflow accessories

All lavatories should include an overflow arrangement (i.e., glue-on overflow, elbow overflow, waste connector and sealing washer).

B.4. Bowl flange

Bowl flange thickness shall be greater than 9/32" (7.1 mm). Flange width shall be uniform within 3/32" (2.4 mm). Flange top surface shall be flat within 1/32" (0.8 mm) measured topside-down using a taper gauge.

B.5. Exposed surfaces

Exposed surfaces shall be free of:

- objectionable scratches
- ridges
- ripples
- pits
- craters
- voids in seam lines
- air holes
- sink marks when viewed from two feet away
- white spots (includes impact or bruises marks)
- depressions
- other physical non-uniformities.

Foreign Matter and Dirt Particles:

- No particle shall be bigger than $\frac{1}{64}$ in.² (0.4 mm²).
- Groups of three or more particles within a 12" (305 mm) diameter circle shall have no particle larger than $\frac{1}{85}$ in.² (0.3 mm²). If there are only two particles within a 12" (305 mm) diameter circle, they shall be judged separately.
- Groups of 10 or more particles shall have no particles larger than $\frac{1}{256}$ in.² (0.1 mm²).
- No raised particle shall be accepted.
- No more than 1 white spot within any 3" diameter circle shall be accepted.
- No more than 7 white spots in each sink or lavatory shall be accepted.

B.6. Bowl opening dimensions

All bowl opening dimensions shall be within $\pm\frac{1}{32}$ " (± 0.8 mm) of stated size.

B.7. Drain holes

All lavatory drain hole diameters shall be $1\frac{3}{4}$ " (44.5 mm). All sink drain hole diameters shall be $3\frac{9}{16}$ " (90.5 mm).

B.8. Bad milling of top flange or overflow

Check for chips on or around the top flange or overflow outlet. Edge nicks should not be deeper or wider than $\frac{1}{85}$ " (0.3 mm).

C. ACCESSORIES INSPECTION

Table C-1 lists the different items you should check before using any DuPont™ Corian® solid surface accessory. More information on adhesives is available in *DuPont™ Corian® Solid Surface Fabrication/Installation Fundamentals – Adhesives* (K-25290).

Call your Authorized Distributor of DuPont™ Corian® solid surface products for assistance whenever you are unsure of raw material quality.

Table C-1

Corian® Accessories Inspection – Items to Look For
incorrect labeling
DuPont™ Joint Adhesive—shelf life
DuPont™ Surfaces Sealant—shelf life
DuPont™ Joint Adhesive—component A (10) leaking (large tube)
DuPont™ Joint Adhesive—component B (1) leaking (small tube)

D. CORIAN® READY-TO-INSTALL PRODUCT INSPECTION

The tables below list the different items you should look for when you make a visual inspection of the DuPont™ Corian® Ready-To-Install products.

Call your Authorized Distributor of DuPont™ Corian® solid surface products for assistance whenever you are unsure of raw material quality.

Table D-1

Corian® Ready-To-Install One-Piece Vanity Top & Bowl Inspection—Items to Look For	Specification
broken	–
incorrect labeling	–
sheet and shape defects	A & B
edge cracks/chips	–
voids in glue line	B.5
bad milling overflow	B.8

Table D-2

Corian® Ready-to-Install Tub and Shower Wall Kit Inspection—Items to Look For
broken/cracked sheets
incorrect labeling
missing pieces
discolored thermoformed corners
damaged, broken trims
damaged, broken soap dish, shower shelf

PRODUCT QUALITY INSPECTION

E. REFERENCED DOCUMENTS

DuPont™ Corian® Solid Surface Product Fabrication Bulletin – Private Collection (K-25702)

DuPont™ Corian® Solid Surface Product Fabrication Bulletin – Metallic Aesthetics (K-25703)

DuPont™ Corian® Solid Surface Fabrication/Installation Fundamentals – Adhesives (K-25290)

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