FINISHING AND POLISHING

This fabrication bulletin addresses finishing and polishing of DuPont™ Corian® solid surface products. In addition to this bulletin, review of *DuPont™ Corian® Fabrication/Installation Bulletin - Combustible Dust* (K-26832) and *DuPont™ Corian® Product Fabrication Bulletin - Fabricating Dark Colors* (K-27414) is recommended.

The finish quality is one of the most visible aspects of overall fabrication quality and one of the first places customers will notice errors. This bulletin provides a variety of tools and procedures for creating three gloss levels: matte, semi-gloss, and gloss.

Tools required for effective finishing include:

- Random orbital sander
- Microfinishing discs or mesh: 100 µ, 60 µ, 30 µ, 15 µ (µ = micron)

P grade sandpaper: P150, P240, P400, P600 and P1000; may be used as an alternative to microfinishing discs.

Use one class of abrasive media for the entire finishing sequence. Do not mix media as the abrasives at each step are not always equivalent.

3M™ Trizact™ Film Discs: 268XA A35 (green), 268XA A10 (blue), 268XA A5 (orange), and 568XA CeO (white); are another alternative.

- 3M™ Clean Sanding Discs or pads - Scotch-Brite™ 7447 A VFN (maroon) and Scotch-Brite™ 7448 S ULF (gray)
- Water and clean rags for dust removal
- High gloss only – low-speed polisher, lamb's wool bonnet[1] and automotive cutting compound

To effectively check for a uniform finish during sanding, install low-angle lighting behind the workstation.

HELPFUL HINTS

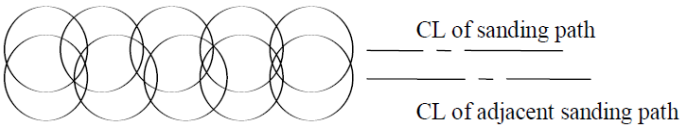
- Plan for dust control at the installation site.
- Several sanders are equipped for dust control that should be used on-site.
- Several brands of large and/or multiple head sanders are available. They make sanding easier, faster and can help to keep the surfaces flat.

[1] Synthetic bonnets have not proven to be an acceptable alternative.

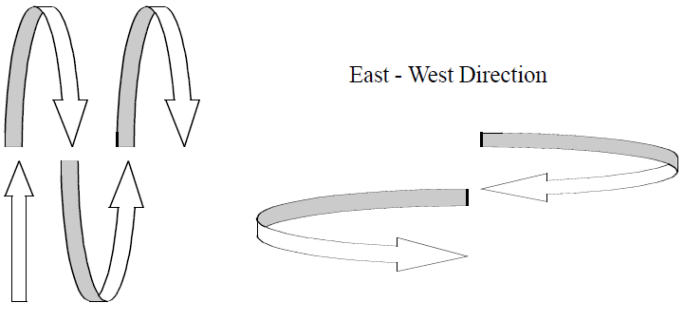
The vast majority of lighter color countertops should be finished in a matte finish to provide easy maintenance. Matte finishes in darker colors may be prone to showing oils from hand contact.

If surface is free from scratches or defects caused during transportation, handling or fabrication, start with step 4.

1. Load the sander with a 100-micron abrasive disc (P150).
2. Sand the entire top to a uniform finish. Be sure to overlap sanding strokes by at least half the pad diameter and cover the entire surface. See Figure B-1. Care must be taken not to concentrate too heavily over the seam area, as this may develop a different look in this area (especially with particulate colors).



The pattern shown in Figure B-1 should be followed across the sheet in a "North - South, East - West" pattern as shown in Figure B-2. The patterns should be followed three times for each grit level.



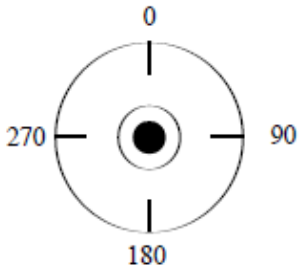
3. When this is finished, wipe the top and inspect for leftover scratches and uniform finish.
4. Sand the top as in Step 2 with a 60-micron disc (P240) and repeat the cleanup procedure. Inspect top once again.
5. Wipe the top down with a wet cloth, then buff with a Scotch-Brite™ 7447 (maroon) disc. This will give a matte finish.

HELPFUL HINTS

- Mask off the work area using plastic sheeting if site dust control is crucial.
- Controlling dust while finishing will reduce cleanup time.
- Use water to wipe down the top in between steps.

Some installations will have large light sources such as windows that create a reflection on the horizontal surface. This lighting will highlight imperfections in the finish, including the pattern left by the sander. This is particularly noticeable at higher glosses and with darker colors. Take care to maintain sheet flatness, any unevenness will show up even if finish is uniform. To minimize these patterns, after the last sanding step produce random motions such as circles and figure-eights to break up any patterns from sanding. These motions are conducted at a 45 degree angle and will crisscross. Only two passes are usually required, one pass at + 45 degrees and one pass at - 45 degrees.

Random orbital sanders lose their effectiveness if too much pressure is applied and the pads stops spinning. To assure that the pad is spinning, mark each sanding pad with four black lines at 0, 90, 180, and 270 degrees (See Figure B-3). These marks will point out if even pressure is applied during sanding. If adequate pressure is applied during sanding, the pad markings will spin freely with a relative blur or "strobe effect". If too much pressure is applied, the pad will stop spinning, preventing the pad and paper from performing as designed.



1. Complete steps 1–4 from Section B above, which describes how to create a matte finish for DuPont™ Corian® solid surface. Stop before the step using the Scotch-Brite™ 7447 (maroon) disc.

HELPFUL HINT

Use of a softer pad at finer grits will help avoid the creation of lane marks.

2. Sand with a 30-micron disc (P400).
3. Wipe top clean with a damp cloth.
4. Buff entire top with a Scotch-Brite™ 7448 (gray) disc until uniform semi-gloss appearance is achieved.

A gloss finish in the appropriate end-use application is an aesthetically pleasing finish for Corian® solid surface. However, scratches are more visible with this type of finish and it requires more care and attention to maintain its appearance. It is not recommended to install a top with a high-gloss finish in a high-traffic/high-use area. If requested to do so, you should clearly advise the consumer of the special care needed to prevent unrealistic expectations.

1. Complete the steps from Section C, which describes how to create a semi-gloss finish for Corian® solid surface, but do not use the Scotch-Brite™ disc.
2. Sand the top with a 15-micron disc (P600). Change discs often, as finer grades tend to clog quickly. Repeat cleanup step.
3. Using a low-speed polisher and lamb's wool bonnet, apply an automotive cutting compound. Do small areas, overlapping to ensure a uniform appearance.
4. Be sure to wash away any residual cutting compounds.

Any cutting compounds must be thoroughly washed away, as they may not be food safe.

An alternative finishing method utilizes 3M™ Trizact™ Film Discs. In order to be effective Trizact™ Film Discs must be used wet.

Due to the possibility of electrical hazards when using water with electric power tools, DuPont strongly recommends against wet sanding with electric powered sanders. Wet sanding is only to be done with air powered tools.

- Air-powered random orbital sander
- 100-micron abrasive film
- Trizact™ Film Discs: 268XA A35 (green), 268XA A10 (blue), 268XA A5 (orange), and 568XA CeO (white)
- 3M™ Clean Sanding Discs - Scotch-Brite™ 7447 A VFN (maroon) and Scotch-Brite™ 7448 S ULF (gray)
- Water and spray bottle to "mist" surface
- Water and clean rags for dust removal

To sand most effectively, use "pattern sanding." This involves sanding side to side, overlapping each successive pass by about one-third of the pad. When this step is complete, sand front to back, also overlapping each pass by about one-third of the pad. Repeat this process three times for each grade of film before changing to the next finer abrasive film.

1. Remove surface blemishes, fabrication scratches, etc., using the 100-micron film abrasive on an orbital sander. This step is done dry. Wipe surface of the countertop completely clean and inspect for defects and scratches. Sand again if needed. Clean surface again and re-inspect. Clean entire top before proceeding.

It is imperative to keep the surface misted during the entire Trizact™ sanding process. The Trizact™ film discs are only effective when used wet. Be sure to sand the countertop twice. Wipe the surface clean and inspect for defects and scratches. Resand if needed. Wipe entire surface clean before proceeding.

2. Install the 268XA A35 (green) Trizact™ film disc on an air-powered random orbital sander. Use spray bottle to lightly mist surface. Pattern sand process the entire countertop as described above.

For a matte finish use a Scotch-Brite™ 7447 (maroon) disc as discussed in Section B. Otherwise continue with next step.

3. Install the 268XA A10 (blue) Trizact™ film disc on the air-powered random orbital sander. Use spray bottle to lightly mist surface. Repeat the pattern sanding process on the entire countertop. Be sure to sand the countertop twice. Clean entire countertop and inspect for defects and scratches. Resand if needed. Clean entire top before proceeding.

For a semi-gloss finish use a Scotch-Brite™ 7448 (gray) disc as discussed in Section C. Otherwise continue with next step for a high gloss finish.

4. Install the 268XA A5 (orange) Trizact™ film disc on the air-powered random orbital sander. Use spray bottle to lightly mist surface. Repeat the pattern sanding process on the entire countertop. Be sure to sand the countertop twice. Clean entire countertop and inspect for defects and scratches. Resand if needed. Clean entire top before proceeding.
5. Install the 568XA CeO (white) Trizact™ film disc on the air-powered random orbital sander. Use spray bottle to lightly mist surface. Repeat the pattern sanding process on the entire countertop. Be sure to sand the countertop twice. Clean entire countertop and inspect for defects and scratches. Resand if needed. Use clean water to clean off all mist and sanding residue from countertop. Wipe top dry and inspect. If any defects, splotches or scratches are present, go back to the preceding step and resand top. If scratches persist, keep going back to the step needed to remove the scratch or get rid of the splotches.

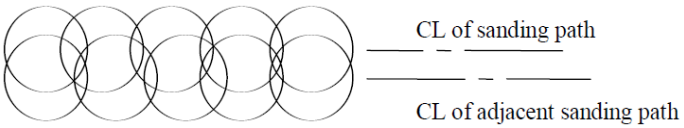
HELPFUL HINTS

- When cleaning the surface between sanding steps, do not use a spray bottle to wet the surface. It's best to use a bucket of water. Change the water when it looks milky.
- A squeegee works very well to begin cleaning the surface when using Trizact™ film disc and water. Wipe the squeegee clean after each pass.

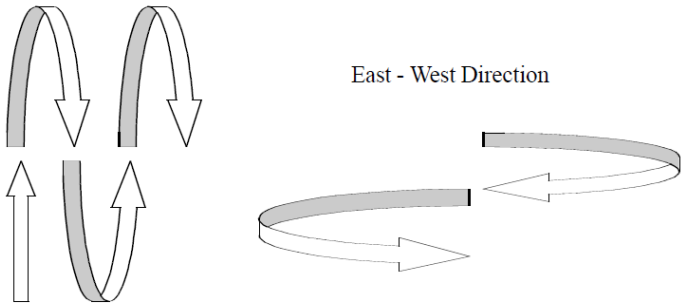
The vast majority of lighter color countertops should be finished in a matte finish to provide easy maintenance. Matte finishes in darker colors may be prone to showing oils from hand contact. Semi-gloss or gloss finishes are recommended for easier cleaning and a darker, richer appearance. If a matte finish is desired, follow the guidance for light colors.

If surface is free from scratches or defects caused during transportation, handling or fabrication, start with step 4.

1. Load the sander with a 100-micron abrasive disc (P150).
2. Sand the entire top to a uniform finish. Be sure to overlap sanding strokes by at least half the pad diameter and cover the entire surface. See Figure G-1. Care must be taken not to concentrate too heavily over the seam area, as this may develop a different look in this area (especially with particulate colors).



The pattern shown in Figure G-1should be followed across the sheet in a "North - South, East - West" pattern as shown in Figure G-2. The patterns should be followed three times for each grit level.



3. When this is finished, wipe the top and inspect for leftover scratches and uniform finish.
4. Sand the top as in Step 2 with a 80-micron disc (P240) and repeat the cleanup procedure. Inspect top once again.

HELPFUL HINTS

- Mask off the work area using plastic sheeting if site dust control is crucial.
- Controlling dust while finishing will reduce cleanup time.
- Use water to wipe down the top in between steps.

Some installations will have large light sources such as windows that create a reflection on the horizontal surface. This lighting will highlight imperfections in the finish, including the pattern left by the sander. This is particularly noticeable at higher glosses and with darker colors. Take care to maintain sheet flatness, any unevenness will show up even if finish is uniform. To minimize these patterns, after the last sanding step produce random motions such as circles and figure-eights to break up any patterns from sanding. These motions are conducted at a 45 degree angle and will crisscross. Only two passes are usually required, one pass at + 45 degrees and one pass at - 45 degrees.

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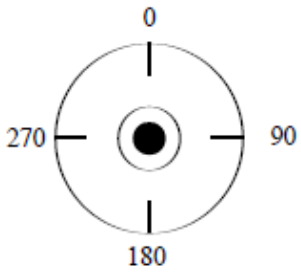

HELPFUL HINTS

- Use of a softer pad at finer grits will help avoid the creation of lane marks.
- Change discs often with finer grades as they tend to clog faster.

5. Sand with a 60-micron disc (P400) and repeat the cleanup procedure. Inspect top once again.
6. Sand with a 30-micron disc (P600) and repeat the cleanup procedure. Inspect top once again.
7. Sand with a 15-micron disc (P1000) and repeat the cleanup procedure. Inspect top once again.
8. Wipe top clean with a damp cloth.
9. Buff entire top with a Scotch-Brite™ 7448 (gray) disc until uniform semi-gloss appearance is achieved.

A gloss finish in the appropriate end-use application is an aesthetically pleasing finish for Corian® solid surface. However, scratches are more visible with this type of finish and it requires more care and attention to maintain its appearance. It is not recommended to install a top with a high-gloss finish in a high-traffic/high-use area. If requested to do so, you should clearly advise the consumer of the special care needed to prevent unrealistic expectations.

1. Complete the steps from Section G, which describes how to create a semi-gloss finish for Corian® solid surface, but do not use the Scotch-Brite™ disc.
2. Using a low-speed polisher and lamb's wool bonnet[2], apply an automotive cutting compound. Do small areas, overlapping to ensure a uniform appearance.
3. Be sure to wash away any residual cutting compounds.

Any cutting compounds must be thoroughly washed away, as they may not be food safe.

[2] Synthetic bonnets have not proven to be an acceptable alternative.

An alternative finishing method utilizes 3M™ Trizact™ Film Discs. To be effective Trizact™ Film Discs must be used wet.

Due to the possibility of electrical hazards when using water with electric power tools, DuPont strongly recommends against wet sanding with electric powered sanders. Wet sanding is only to be done with air powered tools.

- Air-powered random orbital sander
- 100-micron abrasive film (if required to remove scratches)
- Trizact™ Film Discs: 268XA A35 (green), 268XA A10 (blue), and 268XA A5 (orange)
- 3M™ Clean Sanding Discs - Scotch-Brite™ 7448 (gray)
- Water and spray bottle to "mist" surface
- Water and clean rags for dust removal
- High gloss only – low-speed polisher, lamb's wool bonnet and automotive cutting compound

To sand most effectively, use "pattern sanding." This involves sanding side to side, overlapping each successive pass by about one-third of the pad. When this step is complete, sand front to back, also overlapping each pass by about one-third of the pad. Repeat this process three times for each grade of film before changing to the next finer abrasive film.

1. If required remove surface blemishes, fabrication scratches, etc., using the 100-micron film abrasive on an orbital sander. This step is done dry. Wipe surface of the countertop completely clean and inspect for defects and scratches. Sand again if needed. Clean surface again and re-inspect. Clean entire top before proceeding.

It is imperative to keep the surface misted during the entire Trizact™ sanding process. The Trizact™ film discs are only effective when used wet. Be sure to sand the countertop twice. Wipe the surface clean and inspect for defects and scratches. Resand if needed. Wipe entire surface clean before proceeding.

2. Install the 268XA A35 (green) Trizact™ film disc on an air-powered random orbital sander. Use spray bottle to lightly mist surface. Pattern sand process the entire countertop as described above.
3. Install the 268XA A10 (blue) Trizact™ film disc on the air-powered random orbital sander. Use spray bottle to lightly mist surface. Repeat the pattern sanding process on the entire countertop. Be sure to sand the countertop twice. Clean entire countertop and inspect for defects and scratches. Sand again if needed. Clean entire top before proceeding.
4. Install the 268XA A5 (orange) Trizact™ film disc on the air-powered random orbital sander. Use spray bottle to lightly mist surface. Repeat the pattern sanding process on the entire countertop. Be sure to sand the countertop twice. Clean entire countertop and inspect for defects and scratches. Sand again if needed. Clean entire top before proceeding.
5. For a semi-gloss finish buff entire top with a Scotch-Brite™ 7448 (gray) disc until uniform semi-gloss appearance is achieved.
6. For a gloss finish, skip the Scotch-Brite™ step. Using a low-speed polisher and lamb's wool bonnet, apply an automotive cutting compound. Do small areas, overlapping to ensure a uniform appearance.
7. Be sure to wash away any residual cutting compounds.

HELPFUL HINTS

- When cleaning the surface between sanding steps, do not use a spray bottle to wet the surface. It's best to use a bucket of water. Change the water when it looks milky.
- A squeegee works very well to begin cleaning the surface when using Trizact™ film disc and water. Wipe the squeegee clean after each pass.

There may be times that a seam is not quite level. This may be addressed by creating a rigid sanding pad that is used with a gear driven orbital sander with a hook & loop pad.

- Cut a piece of thin aluminum (~0.03 - 0.06" [0.08 – 0.15 mm] thick) to fit the size of the sanding pad used (5" or 6" [130-150 mm]).
- Include holes to match the sanding pad dust holes. The aluminum surface must be smooth and flat.
- Apply pressure sensitive hook & loop tape (use the loop half) to about 50% of one side of the disc. Do not completely cover the disc as it will make it very difficult to remove from the sander. Make sure you do not block the dust holes.
- Apply a 100-micron (P150) pressure sensitive sanding disc to the other side, lining up the holes for dust removal.

- Put the disc on the sander and use a normal pattern to level the area needed.
- Be careful to keep the sanding disc flat on the sheet to avoid gouging the Corian® solid surface.
- Keep the sander moving as this is an aggressive type of sanding. Typically thirty seconds to a minute per square foot (0.1 m2) is enough to level the surface at a deck seam.
- After leveling, use the sanding sequences provided above to obtain the desired finish.

HELPFUL HINTS

Not getting the expected results? Some common issues are:

- moving the sander too fast or unevenly
- not overlapping passes while going north/south and east/west
- not going over material at a minimum of 3x with each paper
- not visually inspecting and wiping down completely between each step
- using a torn pad and/or paper
- sander rotational speed too low

Use one class of abrasive media for the entire finishing sequence. Do not mix media as the abrasives at each step are not always equivalent.

Micron (dry)	P-grade (dry)	Trizact™ (wet)	Micron (dry)	P-grade (dry)	Trizact™ (damp)	Micron (dry)	P-grade (dry)	Trizact™ (wet)
100µ*	P150*	100µ (dry)*	100µ*	P150*	100µ (dry)*	100µ*	P150*	100µ (dry)*
60µ	P240	268XA A35 (green) (damp)	60µ	P240	268XA A35 (green) (damp)	60µ	P240	268XA A35 (green) (damp)
Scotch-Brite™ 7447 (maroon)			30µ	P400	268XA A10 (blue) (damp)	30µ	P400	268XA A10 (blue) (damp)
			Scotch-Brite™ 7448 (gray)			15µ	P600	268XA A5 (orange) (damp)
						automotive cutting compound‡		568XA CeO (white) (damp)

* Initial grit only required if scratches need to be removed.

‡ Meguiar's M105 Mirror Glaze® Ultra-Cut Compound was used for evaluation. Compound must be completely removed as it is not intended for food contact.

Use one class of abrasive media for the entire finishing sequence. Do not mix media as the abrasives at each step are not always equivalent.

Micron (dry)	P-grade (dry)	Trizact™ (wet)	Micron (dry)	P-grade (dry)	Trizact™ (wet)
100µ*	P150*	100µ (dry)*	100µ*	P150*	100µ (dry)*
80µ	P240	268XA A35 (green) (damp)	80µ	P240	268XA A35 (green) (damp)
60µ	P400	268XA A10 (blue) (damp)	60µ	P400	268XA A10 (blue) (damp)
30µ	P600	268XA A5 (orange) (damp)	30µ	P600	268XA A5 (orange) (damp)
15µ	P1000		15µ	P1000	
Scotch-Brite™ 7448 (gray)			automotive cutting compound‡		

* Initial grit only required if scratches need to be removed.

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DuPont™ Corian® Fabrication/Installation Bulletin - Combustible Dust (K-26832)

DuPont™ Corian® Product Fabrication Bulletin - Fabricating Dark Colors (K-27414)

Please visit www.surfaces.dupont.com or contact your DuPont representative for more information about DuPont™ Corian® solid surfaces.

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