

# FINISHING AND POLISHING

## Introduction

This fabrication bulletin addresses finishing and polishing of Corian® Solid Surface products.

## Overview

Finishing Corian® Solid Surface is a critical part of the end consumer's perception of your ability to fabricate Solid Surface. Finish quality is one of the most visible aspects of overall fabrication. This bulletin provides a variety of tools and procedures for creating three gloss levels: matte, semi-gloss, and gloss.

## A. Tools required

Tools required for effective finishing include:

- Random orbital sander
- P grade sandpaper: P150, P180, P240, P320, P400 and P600
- Micro-finishing discs 100  $\mu$ , 60  $\mu$ , 40  $\mu$ , 30  $\mu$ , 15  $\mu$  ( $\mu$  = micron) may be used as an alternative to P grade
- Foam-backed abrasive discs (P240-P4000)
- 3M™ Clean Sanding Discs - Scotch-Brite™ 7447 (maroon) and Scotch-Brite™ 7448 (grey)
- Dust extraction
- Spray bottle with water
- Microfibre cloths
- Squeegee window cleaning tool to remove excess water
- High gloss only – low-speed polisher, polishing bonnets and automotive polishing compounds

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.*

*Sanders should be equipped for dust extraction.*

*Several brands of large and/or multiple head sanders are available. They make sanding easier, faster and can help to keep the surfaces flat.*

## B. Matte finish

The vast majority of worktops can be finished in a matte finish to provide easy maintenance.

Steps to completion:

If the surface is free from scratches or defects caused during transportation, handling or fabrication, start with step 6.

1. Load the sander with a P150/100  $\mu$  abrasive disc.
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 an undulation or a different look in this area (especially with particulate colours).
3. When you start sanding follow the direction “North – South – East - West” for each sanding step in small circular motions overlapping the edges, but without rounding the Corian® material at the edges. Sand the area with a minimum of 3 passes per sanding step.

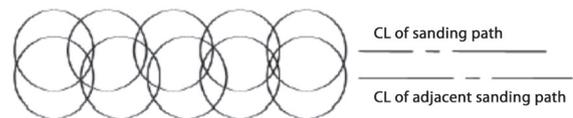


Figure B-1

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.

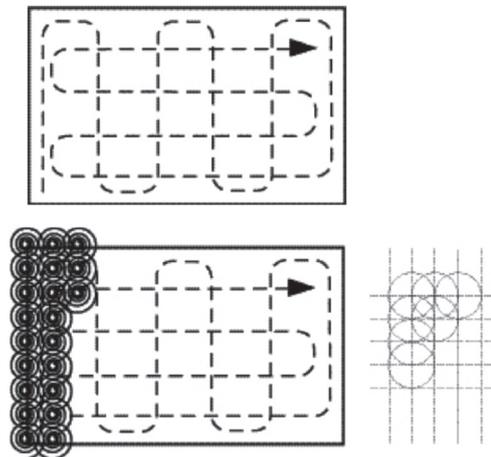


Figure B-2

4. Move the sander in small circular motions through “North – South” - and “East - West” rows so that the sanding areas overlap sufficiently each time.
5. When this is finished, wipe the Corian® with a damp microfibre cloth, dry with another microfibre cloth and inspect for leftover scratches and uniform finish.

6. Re-sand the Corian® as in Step 2 with a P240/60 µ disc and repeat the cleanup procedure. Inspect the finish once again.
7. Once the finish is uniform, wipe the top down with a wet cloth, then buff the surface with a Scotch-Brite™ 7447 (maroon) disc or P240-P360 foam backed wet use abrasive 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 and increase the quality of finish.*

*Use water and a microfibre cloth to wipe down the Corian® in between sanding steps.*

*Depending on the quality/efficiency of the abrasive used, 3 to 6 passes per sanding step might be needed.*

Some installations will have large light sources such as windows that are seen as 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 colours. To minimise these patterns, after every 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 criss-cross for every level of abrasive used. Only two passes are usually required, one pass at + 45 degrees and one pass at - 45 degrees. See Figure B-3.

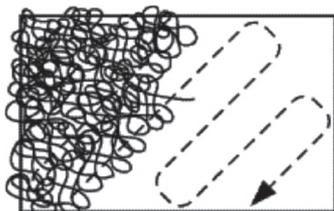


Figure B-3

**Random orbital sanders lose their effectiveness if too much pressure is applied and the pad 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-4). These marks will point out if even pressure is being 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 shown by the lines slowing. Too much pressure prevents the pad and paper from performing as designed.**

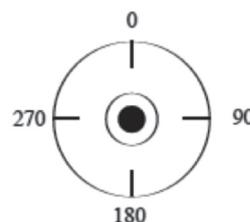


Figure B-4

## C. Semi-gloss finish

Steps to completion:

1. Complete steps 1–6 from Section B above, which describes how to create a matte finish for Corian® Solid Surface. Stop before step 7 using the Scotch-Brite™ 7447 (maroon) disc or P240-P360 foam backed disc.
2. Re-sand with P400/30 µ disc. If the Corian® colour is heavily pigmented sand with P320/40 µ wipe the top clean and sand with P400.
3. Wipe top clean with a damp microfibre cloth and dry.
4. Buff entire top with a Scotch-Brite™ 7448 (grey) or P500 foam-backed disc until uniform semi-gloss appearance is achieved.

#### HELPFUL HINTS

*Use of a softer pad and lower rotation speed at finer grits will help avoid the creation of lane marks.*

*For heavily pigmented colours, additional intermediate sanding steps are recommended.*

## D. Gloss finish

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 worktop 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.

Steps to completion:

1. Complete the steps from Section C, which describes how to create a semi-gloss finish for Corian® Solid Surface adding an additional P180 and P320 intermediate sanding steps in the process, but do not use the Scotch-Brite™ or P500 foam backed disc.

2. Spray the top with water and re-sand wet with foam-backed P600. Change discs often, as finer grades tend to wear quickly. Repeat cleanup step.
3. Spray the top with water and re-sand wet consecutively with foam-backed P1000, P2000 or higher if required. Repeat cleanup step after each grit.
4. Polish the Corian® using a low-speed polisher and polishing bonnet with an automotive polishing compound. Overlapping is essential to ensure a uniform appearance.
5. Be sure to wash away any residual polishing compounds.

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

## E. Wet sanding

Wet sanding is a finishing method that uses water as a means to keep the abrasive clean for improved and longer cutting. Abrasive discs are more efficient, and sanding is less aggressive so less scratches are produced. This method works well with foam backed abrasives designed for wet use.

Tool Requirements:

- Random orbital sander
- Sanding discs or interface pad without holes to prevent water coming into the machine
- Foam-backed abrasive
- Water and spray bottle to “mist” surface
- Water and clean microfibre cloths 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 before changing to the next finer abrasive disc.

Steps to completion:

1. Remove surface blemishes, fabrication scratches, etc., using the abrasives on an orbital sander. This step is done dry. Wipe surface of the Corian® completely clean and inspect for defects and scratches. Re-sand if needed. Clean surface again and re-inspect. Clean entire surface before proceeding.
2. Install the abrasive disc suitable for damp use on a random orbital sander. Disconnect any vacuum extraction from sander for wet sanding. Use spray bottle of water to lightly mist the Corian® surface. Pattern sand process the entire surface as described above.

3. Use clean water with a microfibre cloth to clean off all mist and sanding residue from the Corian® between abrasive grades. Wipe the surface dry and inspect for defects. If any defects, splotches or scratches are present, go back to the preceding step and re-sand. If scratches persist, keep going back to the step needed to remove the scratch or get rid of the splotches.
4. Continue the progression with finer abrasive discs until desired finish level is achieved.

It is imperative to keep the surface misted during the entire wet sanding process. Be sure to complete three passes. Wipe the surface clean and inspect for defects and scratches. Re-sand if needed. Wipe entire surface clean before proceeding with next finer abrasive discs.

### HELPFUL HINTS

*When wet sanding ensure to remove vacuum extraction from the sander. When cleaning the surface between sanding steps, use a spray bottle of water with a microfibre cloth. A squeegee works very well to begin cleaning the wet sanding residue away when using wet sanding. Wipe the squeegee clean after each pass.*

## F. Levelling uneven seams

There may be times that a seam is not quite level. This may be addressed by using a rigid hard hook & loop sanding pad with a gear driven orbital sander. Some brands of sander have hard sanding pads available for this purpose. If this option is not available for your machine it is possible to create a rigid hard sanding pad.

To create the rigid pad:

- Cut a disc of thin aluminium 0.8-1.5 mm thick to fit the size of the sanding pad used 125-150 mm.
- Include holes to match the sanding pad dust holes. The aluminium surface must be smooth and flat.
- Apply pressure sensitive hook & loop tape (hook one side, loop the other side) to 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 P150/100 µ sanding disc to the other side, lining up the holes for dust removal.

Levelling the seam:

- 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 5 to 10 minutes per square metre is enough to level the surface at a seam.
- After levelling, 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*
- *using a worn pad and/or paper*
- *sander rotational speed too low or too high*
- *sander maintenance not optimal (vibration)*

## G. Sanding table

### MATTE FINISH

SANDING MEDIUM	SPEED	EXTRACTION	WATER
P150/100 µ	5	Y	N
P240/60 µ	3	Y	N
Scotch-Brite™ 7447 (maroon) or / P240-360 foam-backed	3	Y/N	N/Y

### SEMI-GLOSS FINISH

SANDING MEDIUM	SPEED	EXTRACTION	WATER
P150/100 µ	5	Y	N
* P180/80 µ	3	Y	N
P240/60 µ	3	Y	N
* P320/40 µ	3	Y	N
P400/30 µ	3	Y	N
Scotch-Brite™ 7448 (grey) or / P500 foam-backed	3	Y/N	N/Y

\* These additional steps are recommended for heavily pigmented colours.

### GLOSS FINISH

SANDING MEDIUM	SPEED	EXTRACTION	WATER
P150/100 µ	5	Y	N
P180/80 µ	5	Y	N
P240/60 µ	3	Y	N
P320/40 µ	3	Y	N
P400/30 µ	3	Y	N
P600 foam-backed	2	N	Y
P1000 foam-backed	2	N	Y
P2000, P3000, P4000 foam-backed as required	2	N	Y
Polishing Compound	1	N	N

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