Corian®
installation booklet

DuPont™
CORIAN®
SOLID SURFACES

This booklet contains instructions for successfully installing Corian® in an efficient and safe manner. It indicates the standards of workmanship required for customer satisfaction.

The installation procedures described in this booklet are recognized within the Europe, Middle East and Africa region and must be adopted during installation in order to comply with the DuPont Ten (10) Year Installed Warranty.

DuPont assumes no responsibility for the use of these techniques with any other products.

Table of contents

A. SAFETY

SAFETY IS A CORPORATE VALUE AT DUPONT.

The safety consciousness from DuPont goes back to the early days of the company (1802) when it operated gunpowder mills. Since those early days safety has always been part of DuPont's culture.

We recommend that you as a Corian® installer would apply the safety guidelines included in this booklet.

Safety Guidelines:

1. For your own safety, read instructions manual before operating different tools and follow the safety requirements;
2. Earth all tools;
3. Remove adjusting keys and wrenches;
4. Keep work area clean;
5. Keep children and visitors away;
6. Use the right tool;
7. Wear proper apparel;
8. Always use safety glasses or approved spectacle shields and ear plugs when working with hand tools;
9. Secure work. Use clamps or a vice to hold down work piece when practical;
10. Maintain tools in good condition;
11. Use recommended accessories;
12. Avoid accidental starting;
13. Never stand on a tool;
14. Check damaged parts and replace immediately;
15. Never leave a tool running unattended;
16. When carrying Corian®, use two people, don't flex, wear heavy duty gloves and if appropriate, use lifting straps;
17. Don't stack boxed products too high and in an unsafe manner;
18. Do not work with wet sanding when your tool is connected to the electricity. Special wet sanding tools are available in the market;
19. **Keep denatured alcohol (Acetone, Methanol or Ethanol), adhesives and any other toxic or flammable materials in a safe ventilated place;**
20. Dust and fumes generated by sanding and other machining operations on Corian®, cause no unusual hazards. However we recommend using tools that can be connected to a vacuum cleaner to minimise dust generation;
21. Provide adequate ventilation when using joint adhesives in confined spaces (like bathrooms, etc.).

Material Safety Data Sheets for DuPont™ Corian® solid surfaces are available via the DuPont Corporate website (http://msds.dupont.com), the www.corianenterprise.com website (restricted access to QN members) or your Corian® supplier.

When there is a medical incident, the European Medical Director can be contacted through telephone number **+32/15/21.28.07 or +32/475/42.80.82.**
Provide name and telephone number of the medical doctors treating the patient and details on the incident.
The European Medical Director will contact this medical doctor in order to:

1. Get more details of what happened.
2. Discuss the best therapy with respect to the product involved.

B. PACKING FOR TRANSPORT

A semi-finished Corian® installation is a valuable and fragile investment and should be treated as such.

Steps for completion:

1. The parts are normally heavy and fragile, so consideration must be given to portability and site access when packing Corian® for transport.
2. Wrap the parts in bubble sheet and corrugated cardboard.
3. Brace any cutouts such as sink and hob openings to avoid flexing of the seams and corners.
4. Cushion the floor of your transportation vehicle.

Helpful Hints:

Parts are best transported on edge.
Do not transport any Corian® with parts touching face to face.
Do not allow any part to slide around during transportation.
When Corian® is exposed to very cold or hot outside temperatures, let the Corian® reach room temperature prior to installation.
Bring all pieces indoors as soon as possible.
Making special transport jigs for transporting parts with shape is common. This acts like a cage around the underside of the bowl, as well as bracing the entire top.

C. RACKING FOR TRANSPORT

Steps for completion:

1. Many designs have been made for transportation, but typically carpet-covered vertical piping makes good racking.
2. Some prefer to have a removable "A" frame that they can hoist off the delivery vehicle. This looks like the method used for transporting glass.
3. The racks also should have securing straps.
4. Have enough people to lift the materials safely.

Helpful Hints:

Do not transport Corian® parts horizontally on roof racks.
This causes stress, and because of the weight will bounce and cause breakage.
Much time and skill has been spent in the factory building a first class product.
Good racking is an insurance for getting the product to site in good condition.

D. INSTALLATION

On-site installation is equally, if not more crucial, to attain a satisfactory result in terms of the final performance of a Corian® countertop.

D.1. SITE INSPECTION

Upon arrival at the site, check site access and power availability.
Ensure that cabinets are complete and satisfactorily installed.
When satisfied, unload all parts and check that all materials and tools required are present.

D.2. INSPECTION OF CORIAN®

Unwrap all parts and check for transportation damage.
Lay the complete countertop on the cabinets and trial-fit all parts;
double-check that all parts are the correct fit.
Check that all the pieces to be installed are as per site drawing, the right colour,
thickness and edge detail.
Make sure that all cutouts and openings are properly located, routed
and sanded smooth.
Inspect all edges for imperfections and observe for excessive warp
or any other obvious defects.
Contact the Corian® fabricator if you find any major defect before you proceed.

D.3. TOOLS AND MATERIALS

Below is a list of items, which may be needed in various installations of Corian®.

- safety goggles
- ear plugs
- saw benches and timber rails
- straight edges
- various clamps
- extension lead
- vacuum cleaner
- router minimum 1600 W
- router bits, sharp and correct size
- random orbital sander
- belt sander 100 mm wide, sanding belts 100-120-150-180 grit
- electric plane
- sandpapers 80-100-150-180-220-320-400 (open coat silicone carbide) Jöst
  or 150-120-100-60-40 Micron film (3M™ Scotch®)
- Scotch-Brite™ pads maroon and grey or superpad S/G (Jöst) & dustpad (Jöst)
- caulk gun
- silicone sealant
- hot melt glue gun with glue sticks
- Corian® joint adhesive (colour as per our recommendation list)

- carpenter tools, i.e. block plane, chisels, hammer, screw drivers, utility knife, tape measure, ect.
- polythene sheets
- dust sheets, drop cloths
- clean cotton cloths
- clear denatured alcohol
- laminate/veneer shims
- plastic release tape
- masking tape
- aluminium heat reflecting tape (Scotch® Brand Tape 425 of 3M™ Scotch®)
- Kaowool™ tape (alternative: Neoprene tape 1.2 mm (3M™ Scotch®)

D.4. GENERAL CARE OF CORIAN®

Do not flex sheets when lifting or carrying Corian®.
If Corian® is exposed to extreme cold temperatures then it must be allowed to reach room temperature, approximately + 18 to + 20 °C, before commencing working with the material.

D.5. PREPARING JOB SITE FOR INSTALLATION

Any alteration works may best be done away from the actual installation site.
The cutting and sanding of Corian® creates much dust and one of the main considerations is to reduce this to the minimum.

All machines should have a facility to allow extraction into a vacuum cleaner.
Use polythene sheeting and dust sheets to protect all areas where appropriate.

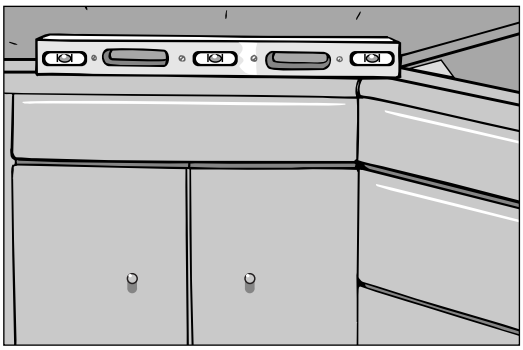
D.6. PREPARING BASE UNITS/CABINETS

Countertop replacement onto existing cabinets :

All electrical, gas and water appliances should be disconnected/connected by qualified and registered persons when applicable.

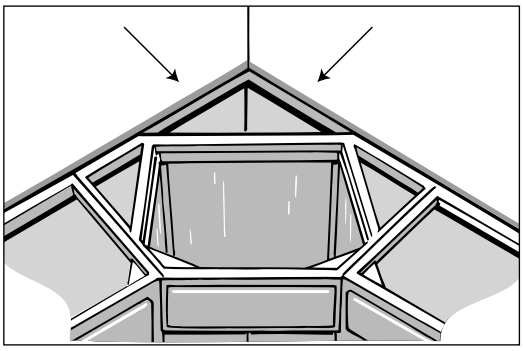
When replacing old countertops, care must be taken in removing them. All screws, nails and any sharp edges should be removed from the countertops, and be disposed of in a safe manner.

The existing base units should be checked for strength and stability. If any remedial work is required to bring them up to standard, it should be carried out at this stage.



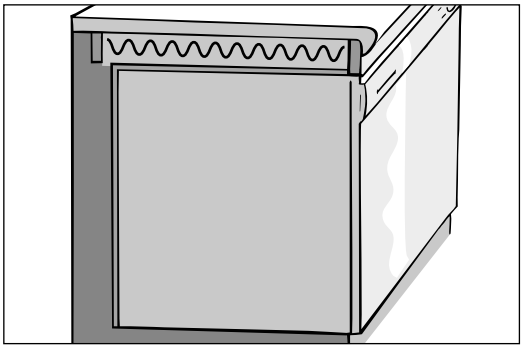
Picture 1 :
LEVELING A COUNTERTOP.

They should be levelled, fixed to each other and then secured to the back wall.



Picture 2 :
SECURED TO THE BACK WALL.

Corner base units may require timber battens fastened against the back wall to support the Corian® countertop. Some corner cabinets with revolving shelves require additional support in the front.



Picture 3 :
FITTING INSULATION.

In kitchens, check for dishwasher position and fit insulation (i.e. Superlux® or equivalent) between the dishwasher and the Corian® countertop.

Be sure there is support for countertop front and back across opening.

THIS MUST BE DONE TO COMPLY WITH THE DUPONT WARRANTY.

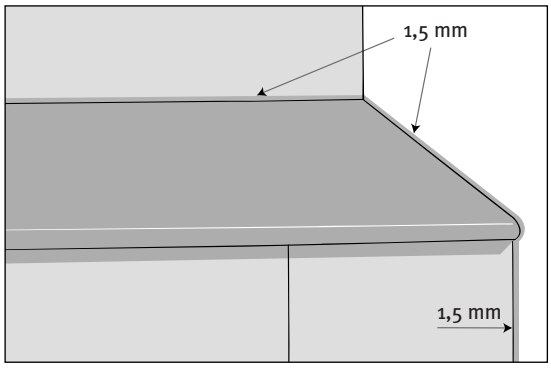
With kitchen base units, which have solid tops (dust covers), the central portion should be removed leaving a perimeter of approximately 50 to 75 mm.
This will allow heat to dissipate but not weaken the base unit construction.
This is strongly recommended. However, if the client will not agree to the removal then the DuPont Warranty will still apply.

If Corian® overhangs any base units without support, 13 mm Corian® should not extend more than 150 mm and 19 mm Corian® more than 300 mm unsupported.
This is necessary in order to comply with the DuPont Warranty.

D.7. PREPARING COUNTERTOPS AND SEAMS

The Corian® countertop can now be trial-fitted on to the prepared base units.
Space should always be allowed as Corian® needs room to expand.
Each countertop requires 1.5 mm between each wall therefore a minimum of 3 mm overall.

THIS IS ESSENTIAL FOR THE DUPONT WARRANTY TO APPLY.



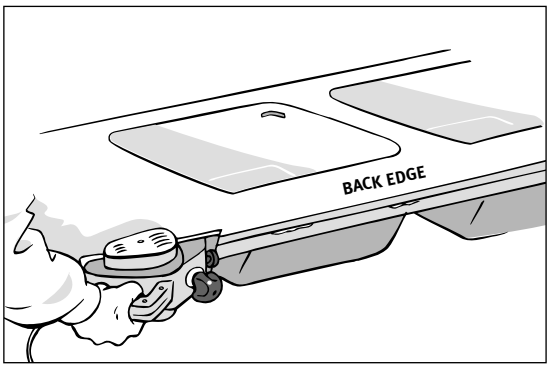
Picture 4 :
1.5 mm CLEARANCE.

D.8. SCRIBING (COUNTERTOPS WITHOUT COVED BACKSPLASHES)

Before preparing seams in the countertop, check to see if any scribing to the back or side walls is required.

To scribe the countertop, follow the instructions below. Scribe the back edge of the Corian® to the wall using a small timber block and a pencil at the distance required to give the correct fit.

To remove excess material, an electric plane, a router with a straight cutter or a belt sander can be used, which ever is preferable.



Picture 5:
SCRIBE WITH ELECTRIC PLANE OR BELT SANDER.

Always sand off any chatter marks and remove any sharp edges.

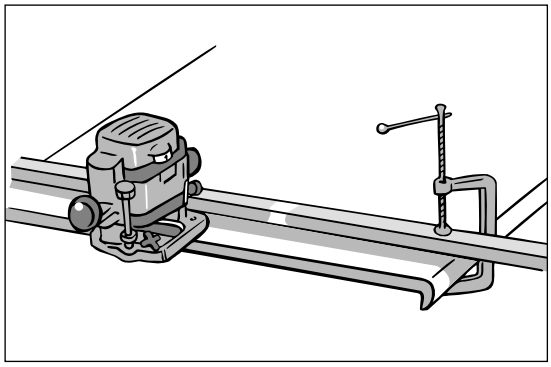
Once the scribe is complete, place laminate shims between the wall and the reverse side of the Corian®. This will give a gap of 1.5 mm which may be caulked with silicone sealant later.

D.9. PREPARING SEAMS

Seams with front edges not exceeding 40 mm in thickness.
There are two most commonly used methods as follows.

A. Standard edge preparation

- Use a router minimum 1600 W fitted with a sharp double-fluted tungsten carbide straight cutter.
- Clamp a true straight edge to both sides of the countertop to be adjusted. Measure the base plate of the router to the leading edge of the router bit and adjust to suit the cut accordingly.
- Working from left to right firmly press the base plate of the router against the straight edge and proceed to remove the excess material.
  This method of preparing the edge will give a straight, square and parallel cut.
  A second pass should be made to reduce chatter marks.
- Sand the routed edge slightly with 150/180 grit sandpaper ensuring the top edge is not rounded in the process.



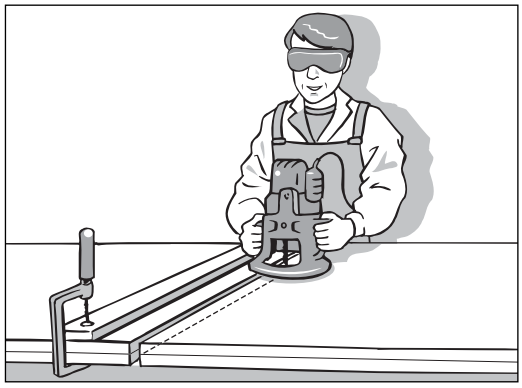
Picture 6:
STANDARD CUT.

B. Mirror Cut method

This term is used when both edges of the seam are cut simultaneously.
The technique is similar to that described in method A, the only change is that both sides of the pieces to be seamed are cut together.

- Bring both parts of the countertop parallel to each other allowing a gap smaller than the router bit to be used. Rout the seam by moving from left to right, each edge will be routed simultaneously. This should give a perfect seam every time.
- Sand lightly the routed seam with 150/180 grit sandpaper ensuring the top edges are not rounded.

Preparing seams with high coved backsplashes or front edges exceeding 40 mm, adjustments may have to be made with a sharp low angled blocked plane, a scraper, an electric plane or a belt sander.
Some work may need to be done from the underside of the countertop.



Picture 7:
MIRROR CUT METHOD.

D.10. WALL CLADDING FITTING ON TOP OF COUNTERTOP

If wall cladding or square backsplash is to fit on top of the Corian® countertop, now is the time to fix it. For wall cladding, follow the below instructions (see 11. Wall cladding).

For square backsplashes, check and scribe for proper fit, allow space for expansion.

- Clean with clear denatured alcohol and a clean cloth both the backsplash and the countertop.
- Place a continuous bead of DuPont colour matched silicone the full length of the bottom edge of the backsplash.
- Turn the backsplash over and press against the countertop and the back wall. Any silicone smeared onto the backsplash should be removed and cleaned with a white cloth dampened with clear denatured alcohol.

DuPont do not recommend that wall cladding be adhered to backsplashes or countertops with Corian® joint adhesives.

D.11. WALL CLADDING

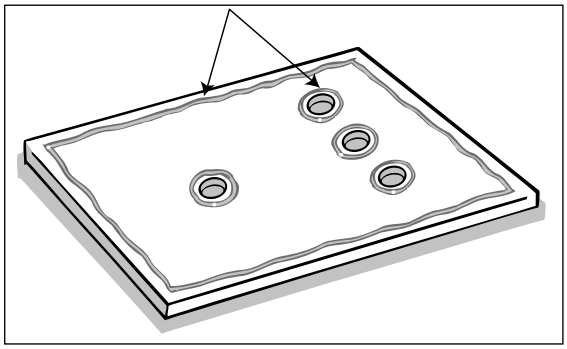
If wall cladding is to go behind the countertop this should be done prior to seaming. Before applying Corian®, the wall to be clad should be smooth and free from dirt and grime. Use clear denatured alcohol and a clean cotton cloth for this purpose. Corian® can be applied directly against existing wall tiles as long as they are sound and well secured, clean as stated above.

All cutouts for electrical sockets etc. must be made with a router and a double-fluted straight cutter.
All edges should be sanded with 150 grit sandpaper to finish.

A. Cut all wall cladding pieces and trial-fit.
An expansion space of 3 mm minimum should be allowed in order to comply with the DuPont Warranty.

B. Clean the reverse side of the Corian® wall cladding with clear denatured alcohol and a clean cloth.

C. Apply DuPont Silicone or elastic P/U adhesive to the reverse side of the Corian® sheet in the following manner.
- Apply a continuous bead of adhesive around the sheet of Corian® approximately 25 mm from the outside edge. Then apply dabs approximately 30 mm in size, equally spaced, at approximately 200 mm centres, within the inside area. Any cutouts i.e. electrical sockets require a continuous bead of silicone, 20 mm around the cutout.
- To eliminate the need for bracing the Corian® wall cladding, hot-melt glue can be applied to the reverse side of the sheet shortly before adhering it to the wall.
- Press the Corian® wall cladding firmly against the wall, use a straight edge to check for any deviation.



Picture 8 :
GLUE ON A PANEL.

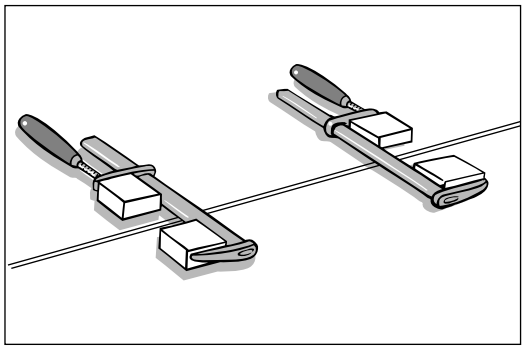
D.12. GLUEING SEAMS USING CORIAN® JOINT ADHESIVE

Once the countertop is scribed and that wall cladding is installed behind the countertop, check that all seams are parallel, with no gaps showing when brought together. It may be best to trial-fit the seam by clamping it. This will give a good indication of seam quality.

Decide upon the method to be used to bring the Corian® material to be seamed together, there are several ways to do this i.e.:

A. timber braces and folding wedges.

B. timber blocks applied to either side of the seam using hot-melt glue and sash clamps to bring them together.



Picture 9:
STRIPS ON THE MATERIAL + CLAMPS.

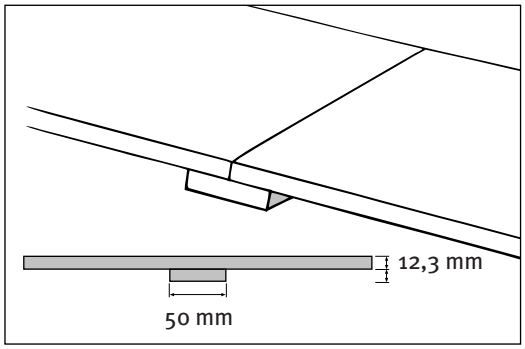
C. jointing bolts (the type used for laminate countertops).

D. suction pads (vacuum type).

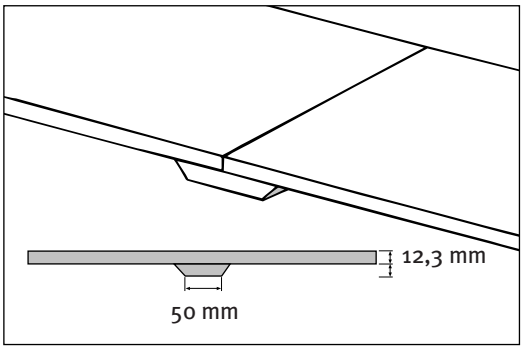
All seams in countertops must be reinforced.
There are two recommended types of seams for Corian®:

1. Standard reinforced butt seams:
All standard butt seams must be reinforced directly under the seamed area to provide maximum strength.
Where there is no heating appliance, the reinforcing strip can be square.

2. Bevelled reinforced butt seams:
All Corian® seams next to a heat source or any type of kitchen countertop must be bevelled.



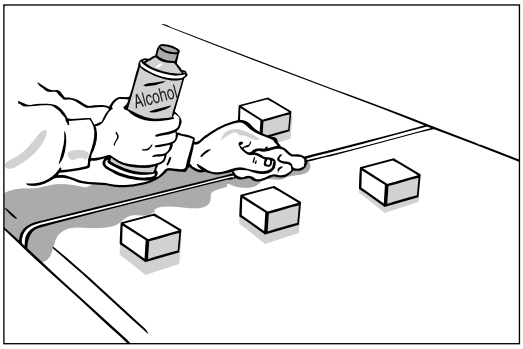
Picture 10:
STANDARD REINFORCED SEAM.



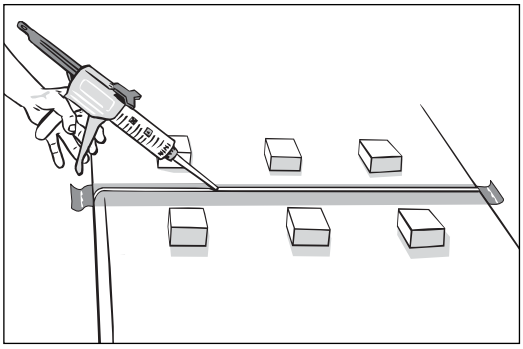
Picture 11:
BEVELLED REINFORCED SEAM.

For reinforced seams, move the countertop apart exposing, the full width of the Corian® reinforcement strip.

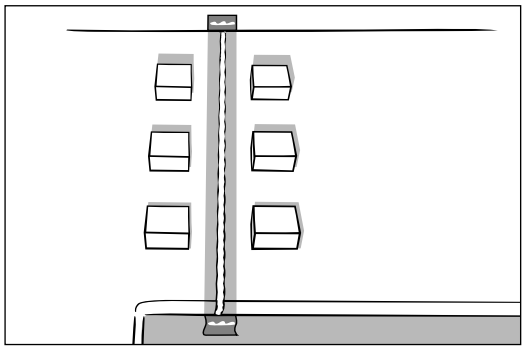
- Clean the seam and the reinforcement strip with a clean white cloth and clear denatured alcohol.
- Apply a wavy line of Corian® Joint Adhesive along the full length of the reinforcement strip and one continuous bead at the bottom edge of the seam.
- Push the two parts of the countertops together leaving a small gap (ca. 2 mm).
- Dam the front edge of the countertop with transparent plastic release tape.
- Use remaining contents of the Corian® Joint Adhesive and fill the seam making sure that sufficient adhesive is used so that when the sheets are brought together, a continuous bead of Corian® Joint Adhesive flows out of the seamed area.
- Apply pressure to the seam with the clamping method you've chosen, checking for alignment.



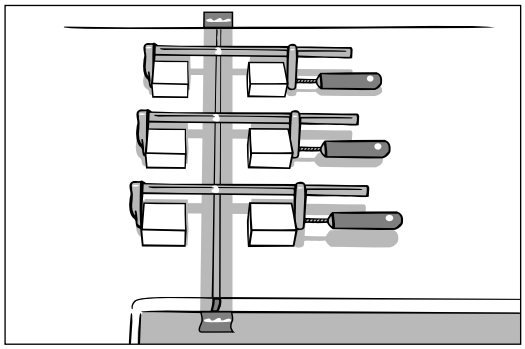
Picture 12a:
CLEAN THE SEAM WITH CLEAR DENATURED ALCOHOL AND A CLEAN WHITE CLOTH.



Picture 12b:
PUSH THE SHEETS TOWARDS EACH OTHER LEAVING A 2 mm GAP.
USE THE REST OF THE CORIAN® JOINT ADHESIVE TO FILL THE SEAM.



Picture 12c :
PUSH THE SHEETS TOGETHER.



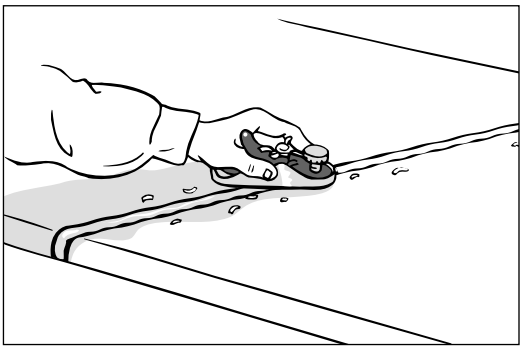
Picture 12d :
CLAMP UP WITHOUT OVERTIGHTENING.

Note:
If using jointing bolts, push the Corian® sheets together so that the seaming process can be observed. The jointing bolts can now be tightened from underneath the countertops making sure **not to overtight**. It is important that when the seam has cured fully, half a turn is taken off the bolts to release any excessive pressure. Leave the Joint Adhesive to cure for circa 45 minutes. (Installation temperature ca. + 17 °C)

To check if the adhesive has cured, press against the seam with a fingernail if any indentation is apparent then it should be left for a further period of time.

D.13. FINISHING SEAM

- Remove hot-melt glue blocks and sash clamps, or any other materials used to tighten the seam.
- Remove the hot-melt glue deposits with a wide sharp chisel and clean off the surface.
- With a sharp low-angle block plane remove the excess Corian® Joint Adhesive as close to the back wall as the block plane will allow. The remainder of the joint excess should be removed with a sander.



Picture 13 :
REMOVE EXCESSIVE ADHESIVE WITH A BLOCK PLANE.

■ Clean off debris and sand in the following manner.

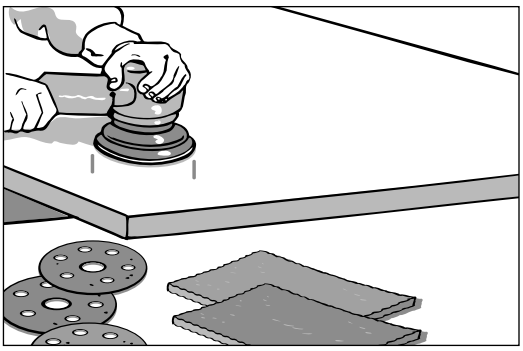
A common method to sand seams is to use a random orbital or a belt sander with a 100mm wide base and silicon carbide belt, use 100 or 120 grit silicon carbide paper as this gives the best results.

Belt sander:
When using a belt sander hold it flat to the surface and work beyond the seam continually moving to avoid overheating and gouging.

Great care must be taken not to gouge the Corian® surface during this process. The belt sander requires an extractor facility, allowing extraction directly into a vacuum, as this procedure creates excessive dust.
A belt sander will leave the surface of the Corian® with quite heavy sanding marks the following sanding procedures should be used to eliminate this.

Continue the same procedures for all remaining seams.

Random orbital sander:
Alternatively, use a random orbital sander with 120 P or 120 micron grit silicon carbide paper to take down the excess Joint Adhesive flush to the surface.
Generally, random orbital sanding machines will cut faster and more efficiently than orbital machines.



Picture 14 :
RANDOM ORBITAL SANDER.

1. When sanding with micronfilm, use 100, 60 - 30 and sand the seam area once again.
2. When sanding with silicon carbide paper, use 150, 220 - 360 and sand the seam area once again.

Always clean the surface with a dry cloth between different stages of the standing process.

Note:

In case of solid colours, complete the sanding with 3M™ Scotch® maroon Scotch-Brite™ 7447 pad. Particled colours can be finished with a 3M™ Scotch® grey Scotch-Brite™ 7448 pad or Superpad S/G 600 (Jöst).

For more specific information around sanding techniques, please take a look at our latest sanding bulletin via our secured web site or via you Corian® supplier.

The whole countertop will need to be blended unto the sanded seam area to avoid any uneven patina.

D.14. FIXING CORIAN® COUNTERTOPS TO BASE/CABINET UNITS

- Drill holes to the back and front rail using a high speed drill 1 to 2 mm larger than the screw to be used to fix the countertop down to the base/cabinet units.
- Select screws which will not pass through the underlayment and take care not to overtight the screw.

SCREWING DIRECTLY INTO CORIAN® IS NOT ALLOWED AND WILL INVALIDATE THE DUPONT WARRANTY.

D.15. HOLES FOR TAPS

Holes for taps should be made best before installing the countertop, if previously not done by the fabricator.
This can be achieved by using a router with a sharp, straight, double-fluted carbide router bit and a template or by the use of a hole cutter.

IT IS ESSENTIAL THAT THE TOP AND BOTTOM EDGES ARE SANDED SMOOTH OR ROUTED TO A 1.5mm RADIUS TO AVOID STRESS RISES.

D.16. HOB CUTOUTS ON-SITE

DuPont highly recommends that hob cutouts are done by the fabricator in the factory, as complicated techniques make it difficult for the installer to carry out the work on-site.
If, however, the installer has no option and finds that this work has to be done, then the below methods must be followed:

A. Standard cutout method: ***(For hobs with radius corners of 60 mm or more)***

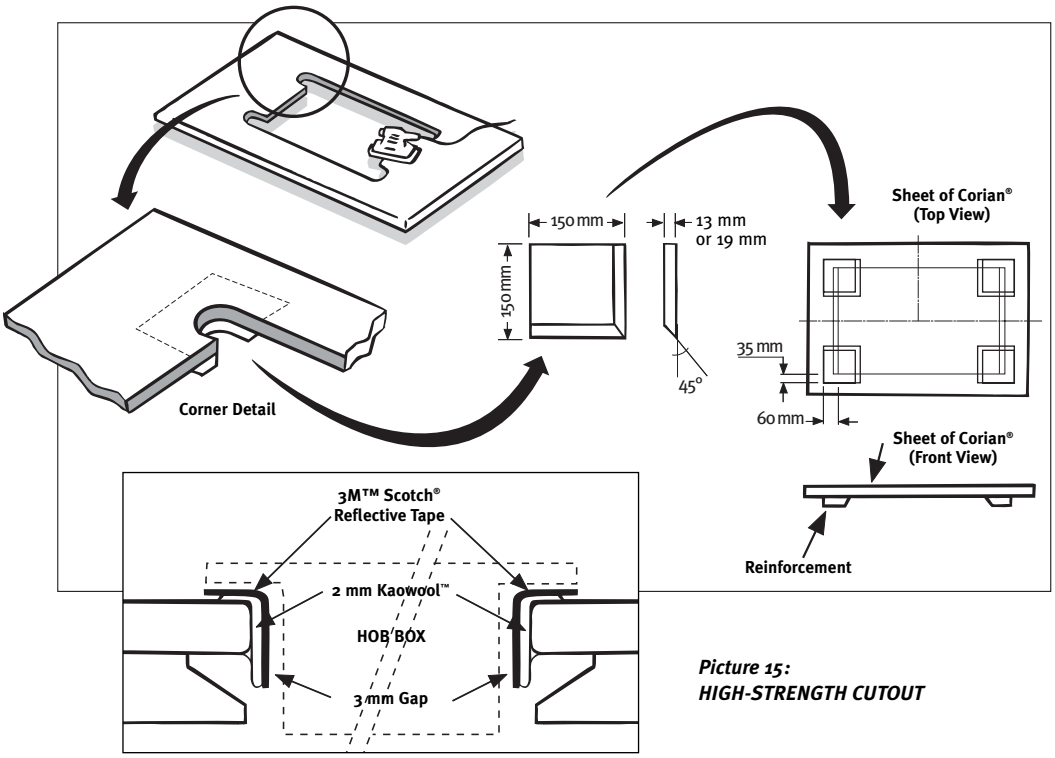
1. Using a template to the size required for the hob, make the cutout through the Corian® including the front and back rails of the underlayment support. To make the cutout in the Corian®, use a sleeve guide and a 12 mm x 50 mm straight router bit in a router with minimum 1600 W power. The cutout must be minimum 3 mm larger all round than the box of the hob. It may be advisable to first cut through the thickness of the Corian® and then lower the bit to cut the M.D.F. subframe.
2. Change the router bit and insert the special round-over –bit (top and bottom r. 1.5 mm).
   With hot-melt glue, stick a strip of M.D.F. or plywood on each side of the cutout and flush to the routed edge of the cutout.
3. Sand the cutout edges smooth being very sure no nicks or defects remain after sanding.
4. Apply 3M™ Scotch® aluminium reflecting tape. Allow a minimum 3 mm gap all round. Applying Kaowool™ insulation tape is recommended.
5. Trim off any excess 3M™ Scotch® aluminium reflective tape around the flange or the hob.

   Note: see illustration below.

B. High-strength cutout method: ***(Mandatory method for installing square hobs)***
(For a comprehensive explanation of this method and paper templates, please refer to our Fabrication Manual, Cutouts in Corian®, chapter 8, at the www.corianenterprise.com site or contact your Corian® supplier.)

1. The cutout must be done with a router and a sharp 10 to 12 mm straight carbide cutter, this is the only recommended tool for this procedure. Always use the proper template for each flange size.
2. Great care must be taken to sand all inside edges removing any chatter marks. The top and bottom edges must be sanded to a minimum radius of 1.5 mm, until they are rounded and smooth.
3. Particular care must be taken when sanding the corners as this is a vulnerable area. Therefore each corner must be re-enforced with a second piece of Corian® and bonded with Corian® joint adhesives. Allow a minimum of 3 to 6 mm gap between the cutout and the electrical appliance. If more space can be given, then do so. See illustration below for details.
4. Apply 3M™ Scotch® aluminium reflecting tape around the cutout. The tape should be applied to the top surface where the hob flange rests and the remainder should be pushed down into the cutout area. Applying Kaowool™ insulation tape is recommended.

5. All four corners should be double reinforced with the tape making sure all edges overlap.



Picture 15:
HIGH-STRENGTH CUTOUT

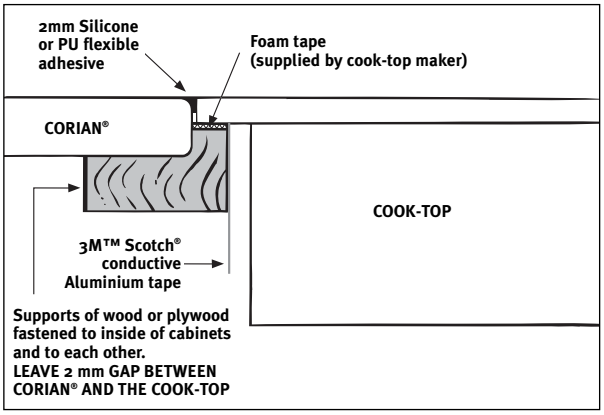
Note:

A minimum space of 50 mm behind the hob is required.
For full height wall cladding behind gas burner cooking appliances, 100 mm space is recommended.
This will require some design change to the base cabinets.
Kaowool™ is highly recommended for industrial cooking area's and for hot buffet installations.

UNLESS THE HOB IS INSTALLED TO THE ABOVE MENTIONED METHODS, THE DUPONT WARRANTY IS VOID.

Note:

Flush mounted hobs are covered by the DuPont warranty only if the following guidelines are followed:



Picture 16:
FLUSH COOK-TOP INSTALLATION

1. The cutout must be done with a router and a sharp 10 to 12 mm straight carbide cutter, this is the only recommended tool for this procedure. Always use a proper template to make the cutout 2 mm bigger than the perimeter of the appliance.
2. Great care must be taken to sand all inside edges removing any chatter marks. The top and bottom edges must be sanded to a minimum radius of 1.5 mm, until they are rounded and smooth.
3. Particular care must be taken when sanding the corners as this is a vulnerable area. Allow a minimum of 3 to 6 mm gap between the cutout and the appliance. If more space can be given, then do so.
4. Fix the profiled supports of wood or plywood fastened to the inside of cabinets and to each other. Protect the support with 3M™ Scotch® aluminium reflecting tape.
5. Apply the foam tape supplied by the manufacturer, centre the appliance in the cutout. Apply 2 mm silicone or PU flexible adhesive.

To install a hob:

- Centre the hob in the cutout
- Check if all necessary insulation material is applied
- Install the hob as it is described in the hob manufacturer installation guide

If possible fix the cooking appliance to the Corian® countertop with a continuous bead of silicone sealant. Should this not be possible, fix the appliance to the underlayment, do not overtight any fixing points, make sure no screws are screwed directly into the Corian®.

Note:

Any modification of the hob cutout done by non authorised personnel after the installation could result in making the warranty void.

D.17. INSPECTION AND CLEAN UP

Finish to remove minor scratches with a random orbital sander and appropriate sanding disks. If necessary, buff the entire surface with a Scotch-Brite™ pad or Superpad S/G (Jöst) to provide a uniform surface appearance.

Leave the cutout piece, provided by the fabricator, either with the client or secreted in a place contained in the installation where it can be retrieved at a later date in case of repairs. Clean up the site thoroughly, removing all dust.

D.18. CARE INSTRUCTIONS GIVEN TO CUSTOMER

The customers should be shown personally how to remove marks by the use of a gentle abrasive powder bleach or a mild cream abrasive cleanser using a circular motion. Leave the "Use and Care" leaflet with your customer.

E. WARRANTY INFORMATION

DuPont offers two levels of warranty protection for Corian®: Product and Installed.

The "Product Warranty" is standard for all Corian® products and ensures that they will be free of manufacturing defects for a period of 10 years after purchase.

A higher level of coverage, the "Limited Ten (10) Year Installer Warranty", is only available when fabrication and installation is done through Quality Network Corian® fabricators.
This Limited Installed Warranty expands the Product Warranty and also ensures that the fabrication and the installation of the finished product will be free of defects.

For further information please contact your local authorized distributor.

www.corian.com

DuPont™
CORIAN®
SOLID SURFACES

Creation & Production – Printed in Belgium – L-13199-00 (12.04)