

TRANSPORTATION AND INSTALLATION

Introduction

This bulletin addresses the transportation and on-site fabrication and installation of Corian® Solid Surface products.

Bring all pieces indoors as soon as possible. Special transport jigs for transporting parts with installed sinks are commonly used. These act like a cage around the underside of the sink, as well as bracing the entire top.

Overview

Proper fabrication is only the first step in providing a high quality installation of Corian® Solid Surface products. The fabricated parts need to be properly packaged for transport and delivered without incurring damage. Installation is also a key component of a successful job. This bulletin is for both fabricators and installers.

This bulletin provides the basic information needed for on-site fabrication and installation. For more detailed information on any topic please read the relevant Corian® Solid Surface Fabrication/Installation Fundamentals bulletins.

A. Packing for transport

Proper packing is the first step to successfully transporting fabricated Corian® Solid Surface products.

Steps to completion:

1. Corian® Solid Surface products that have been fabricated but do not have their full support structure can be heavy and susceptible to damage. Consideration must be given to portability and site access when planning packing for transport.
2. Wrap the parts in bubble wrap, corrugated cardboard or a similar protective covering.
3. Brace any cut-outs to avoid flexing of the corners.
4. Cushion the floor of your transportation vehicle.

HELPFUL HINTS

Parts are best transported on edge.

Do not transport Corian® products with parts touching face to face. Use protection (bubble wrap, cardboard, etc.) between each part being transported.

Do not allow any part to slide around during transportation. Do not allow Corian® parts to become overheated in the sun on hot days.

B. Racking for transport

Proper racking in the transport vehicle will help ensure that the products are secure during transport.

Steps to completion:

1. Many designs have been made for transportation, but typically carpet-covered vertical pipes make 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 should also have securing straps.
4. Take two people in the delivery vehicle to get the product onto site safely and in good condition.

HELPFUL HINTS

Do not transport Corian® parts horizontally on roof racks. This causes stress, and because of the weight it may bounce and cause breakage.

C. Installation

On-site installation is equally, if not more crucial to attain satisfactory results in terms of the final performance of a Corian® Solid Surface installation. It is also important to understand and follow all rules of the site.

C.1. Basic Procedures and cross-check

1. Upon arrival at the site, recheck site access and power availability. This should have been done during the templating visit.
2. Ensure that support structures, cabinets and battens are complete and satisfactorily installed. If not, contact customer and installer. If necessary, install perimeter support.

3. When satisfied with Steps 1 and 2, unload all parts and check that all materials and tools required are present.
4. If necessary, seal off the installation area to prevent the spread of dust to other areas of the house or job site. Also, it may be necessary to shut down the HVAC to prevent the spread of dust.
5. Unwrap all parts and check for transportation damage.
6. Lay the complete worktop on the support structures or cabinets and trial-fit all parts; double checking that all parts are fitted correctly.
7. Double-check that expansion gaps of 1.5 mm are left against all walls.
8. Make sure that all cut-outs are sized properly. Trial fit the equipment or appliances to make sure.
9. Check surrounding conditions for anything that could contaminate your work (e.g., dust, other trades).
10. Consider the sequence of on-site seams that will allow for the best clamping procedure.
11. Before applying DuPont™ Joint Adhesive or Corian® Joint Adhesive, make sure that the seams are thoroughly cleaned with denatured alcohol¹.

Be careful with the denatured alcohol. It can ruin some wood finishes.

12. One at a time complete the on-site seams, making sure the parts fit perfectly and create an inconspicuous seam—this may be how the entire job will be judged.
13. When seams are completely set, remove excess glue and sand seams to the desired finish. If possible, use a sander equipped with vacuum dust collection.
14. Upon completion, protect finished surfaces from other trades by sticking protective sheeting over the surfaces and/or a warning to avoid others placing items on the finished product.

HELPFUL HINTS

Make sure that all work is planned in advance and that all the tools required are brought to the job site. Tool bins on casters make this easier and faster.

Never lift any Corian® piece that cannot be handled comfortably; when in doubt, seek assistance.

¹ Denatured alcohol is the preferred solvent for cleaning Corian® Solid Surface products. Acetone is approved for cleaning Corian® Solid Surface in regions where denatured alcohol is prohibited. Please see *Corian® Solid Surface Fabrication/Installation Fundamentals – Approved Cleaning Solvents* (K-25701) for more details.

C.2. Detailed steps of completion

1. Safety

- When manually handling Corian® products, always use enough people to lift heavy sections using a safe method of lifting (see *Corian® Fabrication/Installation Fundamentals – Safe Handling and Storage* (K-25285)).
- After unpacking the Corian® products, care must be taken to ensure that all nails and screws are removed from any wooden crating, and any packaging material is disposed of safely before proceeding with the installation.
- Approved safety shoes and eye protection should be worn and clothing should be suitable for working with machinery (i.e., no loose-fitting cuffs or shirts that are not tucked in, etc.). Wear gloves when handling sheet or adhesives.
- Be sure the working area is well ventilated when using adhesives and denatured alcohol.

Caution: Denatured alcohol is flammable. Keep away from sparks and open flames.

- Check that all electrical tools are safe to use, and only use sharp router cutters and hand tools.

2. Inspection of products fabricated from Corian® Solid Surface

- Check that all the pieces to be installed are as per site drawing, the right colour, thickness and edge detail.
- Inspect all edges for imperfections and observe for excessive warp or any other obvious defects.
- If the part was fabricated by another party, contact the fabricator if you find any major defect before you proceed.

3. Tools and Materials

Below is a list of items that may be needed in various installations of Corian® products:

- safety goggles, dust mask, leather gloves, and steel-toed safety shoes
- sawhorses and support rails
- straightedges
- various clamps
- extension cable
- various routers
- router cutters, sharp and correct size
- random orbital sander
- portable vacuum dust extractor

- electric plane (if desired)
- electric jigsaw (only for other materials NOT to be used on Corian® products)
- micro finishing films: 100, 60, 30, 15µ (micron) or P-grade sandpapers: P150, P240, P320, P600
- 3M™ Scotch-Brite™ Clean Sanding Discs 7447 (maroon) and 7448 (grey)
- caulk gun
- silicone sealant for gluing and caulking
- hot-melt glue with glue sticks having 45- to 60-second open life
- DuPont™ Joint Adhesive or Corian® Joint Adhesive and gun
- carpenter tools (i.e., block plane, chisels, hammer, screwdrivers, knife, tape measure)
- polythene sheeting
- cotton dust sheets
- clean white cotton cloths or white paper towel (seam cleaning)
- denatured alcohol (or acetone in areas with VOC restrictions)
- 3M™ 425 aluminium heat reflective tape (D11920096 from an authorised distributor of DuPont™ Corian® products)
- laminate shims
- plastic release tape
- masking tape.

4. General Care of Corian® Solid Surface

- Do not flex sheets when lifting or carrying Corian® products.
- If Corian® products are exposed to extreme temperatures they must be allowed to reach room temperature, approximately 18–20°C before commencing work with the materials.

5. Preparing Job Site for Installation

- Survey site and determine best working options.
- Any alteration work may best be done away from the actual installation site.
- The cutting and sanding of Corian® products creates dust that should be contained as much as feasible.
- All sanders should allow for extraction into a vacuum system.
- Use polythene dust sheets to protect all areas where appropriate.

- Use a fan to exhaust dust and fumes to outside. Turn off HVAC system or cover vents and cover any unnecessary light fixtures.

6. Preparing Structural Support/Base Units/Cabinets

- When replacing old tops, care must be taken in removing them. All screws, nails and any sharp edges should be removed from the tops and be disposed of in a safe manner.
- The existing support structure 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.
- All electrical, gas and water appliances should be disconnected/connected by licensed and qualified persons when applicable.
- When installing new structural support/base units/cabinets, etc., prepare as follows:
 - They should be levelled and fixed to each other and then secured to the back wall. The tops of all the cabinets must be within 3 mm of a flat surface over a 3 m run and must be flush with each other.
 - Corner base units may require wood battens fastened against the back wall to support the Corian® top. Some corner cabinets with revolving shelves require additional support in front. See *Corian® Solid Surface Fabrication/ Installation Fundamentals – Structural Support (K-25291)*.
 - All cut-outs must have 25 mm x 100 mm front-to back support set back 5 mm from each side of the cut-out. Be sure to use the High Strength Corner Block method for all sit-on hobs and heat generating appliance cut-outs. More detail on High Strength cut-outs can be found in *Corian® Solid Surface Fabrication/Installation Fundamentals – Cutting and Cut-outs (K-25289)* and *Corian® Solid Surface Technical Bulletin – Residential Hob Cut-outs (EMEA)*.
- Check the position for any dishwashers. Be sure there is insulation and support for the top front and back across the opening. Supports must pass the Span Test *Corian® Solid Surface Fabrication/Installation Fundamentals – Structural Support (K-25291)*.
- Rebate underlayment support strips to allow for Corian® seam reinforcement strip as necessary.
- With base units that have solid tops the central portion should be removed, leaving a perimeter of approximately 50–75 mm. This will allow heat to dissipate but not weaken the base unit construction. This is strongly recommended. It is acceptable if the client will not agree to the removal.

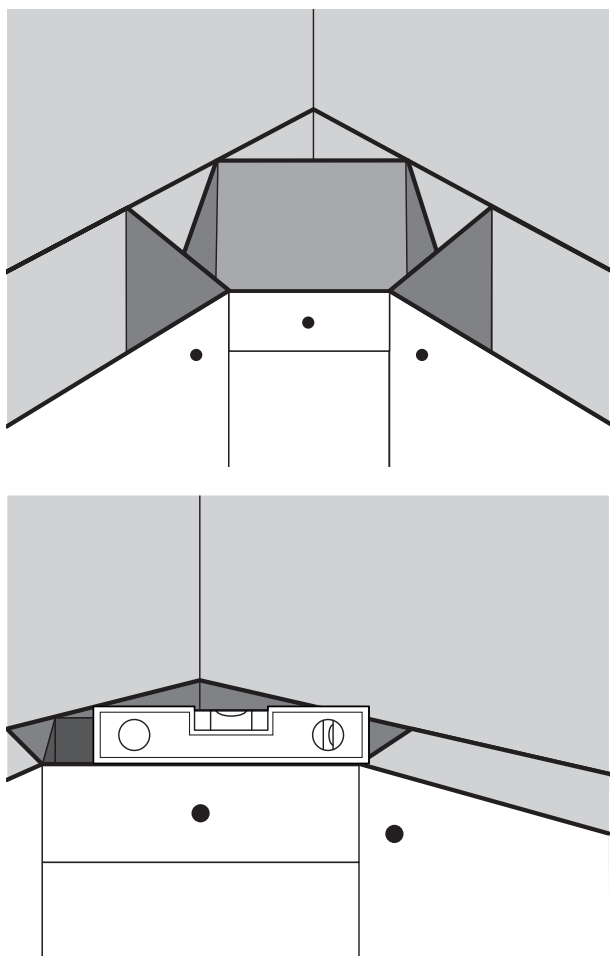


Figure C-1

- If Corian® sheet overhangs any structure without support see *Corian® Fabrication/Installation Fundamentals – Structural Support* (K-25291) for overhang allowances.
- Determine based on the support structure/base/cabinet units where the site seams are to be made in the worktop. Protect the inside of cabinets from joint adhesive that may drip inside during seaming.
- If underlayment perimeter support is not built into the worktop, it must be installed now. See *Corian® Solid Surface Fabrication/Installation Fundamentals – Structural Support* (K-25291) for details. If the perimeter support is built into the worktop, shim between support strips and cabinets as needed. Then fasten strips to cabinets.

If the external support structure does not provide proper support for the top, then support strips must provide all the necessary support. If there is any doubt, perform the Span Test as outlined in the *Corian® Solid Surface Fabrication/Installation Fundamentals – Structural Support* (K-25291).

7. Preparing horizontal tops and seams

The Corian® Solid Surface top can now be trial-fitted onto the prepared structural support. All parts may not fit, as some fabricators purposely oversize the tops for on-site adjustment. Space should always be allowed, as Corian® products need room to expand. Each top requires at least 1.5 mm at each wall, i.e. left, right and back wall. However, do not leave gaps larger than necessary. Larger gaps are unsightly and very difficult to fill with silicone or hide with upstands or backsplashes.

8. Scribing (for worktops without covered upstands)

Before preparing seams in the top, check to see if any scribing to the back or side walls is required. To scribe the top, follow the instructions below.

Steps to completion:

1. Mark the back edge of the Corian® Solid Surface top to the wall using the pattern template made on the job.
2. To remove excess material, an electric plane, a router with a straight cutter or a belt sander can be used, whichever is preferable.
3. Always sand off any chatter marks, nicks and chips from the back edge nearest the wall and ease any sharp edges. Round over upper and lower edges of top at cut-outs to a 1.5 mm radius.
4. Once the scribe is complete, place laminate shims between the wall and the perimeter of the Corian® top. Make the shims long enough so that they can be removed easily. This will give a gap of 1.5 mm, which may be caulked with silicone sealant later if needed.

9. Preparing Seams

For seams with front edge build-up not exceeding 50 mm, there are two most commonly used methods as follows.

A. Single-Edge Preparation

Steps to completion:

1. Use a router, minimum 1500 W, fitted with a sharp, double fluted tungsten carbide straight cutter.
2. Clamp a true straightedge to both sides of the worktop 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.
3. Working from left to right, firmly press the base plate of the router against the straightedge and proceed to remove the excess material.
4. This method of preparing the edge will give a straight, square and parallel cut. A second pass should be made to reduce chatter marks.

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. *Single Edge Preparation*, the only change is that both sides of the pieces to be seamed are cut together.

Steps to completion:

1. Bring both parts of the worktop parallel to each other, allowing a gap 3 mm smaller than the router cutter 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. Before routing, make sure the sheets are flat and level to ensure best fit.
2. When preparing seams with high covered upstands or front edges exceeding 50 mm, the routing may need to be done in stages for the horizontal and vertical seams involved.

10. Full-height backsplashes

If a full-height backsplash will be installed behind the worktop (i.e. the backsplash goes below the level of the worktop and is between the worktop and the wall), this should be done prior to seaming. A full-height backsplash is a small example of wall cladding and the same installation instructions apply.

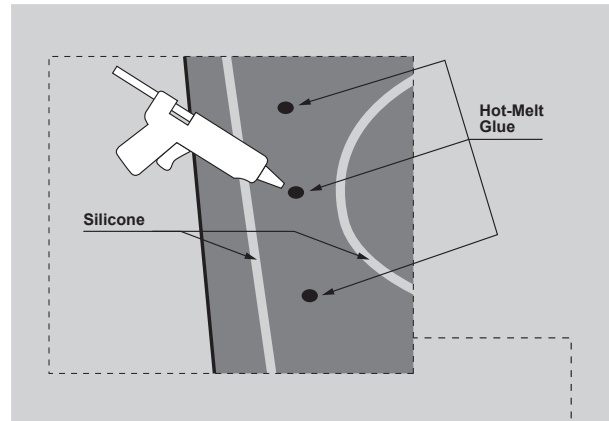
- Before applying the Corian® backsplash, the wall to be clad should be smooth and free from dirt and grime. Use denatured alcohol and a clean cotton cloth for this purpose.
- Corian® backsplashes can be applied directly against existing wall tiles as long as they are sound and well secured.
- All cut-outs for electrical sockets, etc., MUST be made with a router.
- All edges should be sanded with 100-micron (P150) sandpaper to finish, including the back edge at the cut-outs as previously described.

Do not fabricate a full-height covered backsplash. The chance of fracture at the cove due to building settling is too great.

Steps to completion:

1. Cut all backsplash pieces and trial-fit. An expansion space of 1.5 mm minimum must be allowed. Expansion space must be allowed at return walls and at upper and lower cabinets.
2. Clean the reverse side of the Corian® backsplash with denatured alcohol and a clean cloth.
3. Apply silicone 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 run a bead in an “S” pattern, within the inside area. Any cut-outs (e.g., electrical sockets) require a continuous bead of adhesive 25 mm in from the cut-out. See Figure C-2.

4. To eliminate the need for bracing the Corian® backsplash, hot-melt glue can be applied to the reverse side of the sheet shortly before adhering it to the wall.
5. Press the Corian® backsplash firmly against the wall. Use a straightedge to check for any deviation.



Run a continuous bead of adhesive around perimeter of sheets and cut-outs.

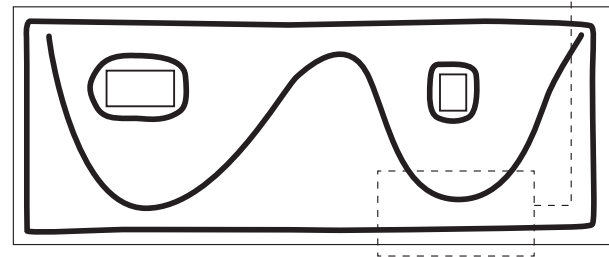


Figure C-2

11. Gluing Seams Using DuPont™ Joint Adhesive or Corian® Joint Adhesive

Once the worktop is scribed and the wall cladding is installed behind the worktop, check that all seams are parallel, with no gaps showing when brought together. This is a brief overview, see *Corian® Solid Surface Fabrication/Installation Fundamentals – Seaming (K-25292)* for complete details on seaming.

Decide upon the method to be used to bring the seam together. There are several ways to do this; for example:

- OEM vacuum clamping systems
- Wood blocks applied to either side of the seam using hot-melt glue and clamps to bring them together

Steps to completion:

1. To glue a reinforced seam, move the worktop apart, exposing the full width of the Corian® reinforcement strip.
2. Clean the seam and the reinforcement strip with a clean, white cloth or white paper towel and denatured alcohol.

3. Apply and completely spread DuPont™ Joint Adhesive or Corian® Joint Adhesive along the full length of the reinforcement strip.
4. Push the two parts of the worktop together, leaving a 3 mm gap.
5. Dam the front edge of the worktop with plastic release tape.
6. Use DuPont™ Joint Adhesive or Corian® Joint Adhesive to fill the seam area, making sure that sufficient adhesive is used so that when the sheets are brought together, a continuous bead of joint adhesive flows out of the seamed area.
7. Apply pressure to the seam with the clamping method you've chosen, checking for alignment and surface flatness.
8. Allow the joint adhesive to cure for the required time. 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 an additional period of time.

HELPFUL HINTS

For higher productivity, turn pieces face down on a flat surface covered with a release agent to make seam. With the top upside-down, the deck seam, front edges, the sink or basin, any reinforcement blocks and the seam reinforcement can be glued on at the same time.

12. Finishing Seams

Steps to completion:

1. Remove clamping device, or any other materials used to tighten the seam.
2. Spray blocks with denatured alcohol to loosen hot-melt glue. If blocks were used, remove the hot-melt glue deposits with a wide, sharp chisel and clean off the surface.
3. The fastest method to remove the excess joint adhesive is with a router on skis. Do NOT use a belt sander. To minimise dust on the job use a sharp, low-angle block plane. Remove the excess joint adhesive as close to the back wall as the block plane will allow. The remainder of the excess should be removed with a wide, sharp chisel, making sure not to damage the surface of the Corian® sheet.
4. Clean off debris.
5. Use a random orbital sander equipped with vacuum dust collection with a 100-micron (P150) sanding disk to take down the excess joint adhesive flush to the surface and remove fabrication scratches. Minimise dust generation.
6. Clean the surface with a damp, clean cloth to remove any sanding residue. Change to 60-micron (P240) sanding disk and sand the seam area once again.
7. Clean off any sanding debris with a damp, clean cloth. Avoid using compressed air as it scatters dust. Complete

the finishing with 3M™ Scotch-Brite™ Clean Sanding Disc 7447 (maroon) to give a matte finish. Other gloss levels can be reached by following steps listed in the *Corian® Solid Surface Fabrication/Installation Fundamentals – Finishing and Polishing* (K-25298).

8. If seam is out of alignment, it will take more time to sand it flat and level.

HELPFUL HINTS

Use a sanding system that features a vacuum dust collector to control dust.

To minimise finishing time, use the finest abrasive possible to start finishing.

Skip the rougher abrasives if they are not needed.

13. Fixing Corian® horizontal tops to base/cabinet units

There are several ways to secure worktops to cabinets. The two most popular ways are silicone adhesive or screws to the wood support only. Do not screw directly into Corian® products. If the Corian® top is set directly onto perimeter support, use small dabs of 100% silicone sealant/adhesive, no closer than 300 mm. If wood underlayment support is attached to the underside of the worktop with silicone, screws can be used as follows:

Steps to completion:

1. Drill holes in the back and front cabinet rail, using a high speed drill about 3 mm larger than the screw to be used to fix the top down to the base/cabinet units.
2. Select screws that will not pass through to the Corian®, and screw into the support rails, taking care not to over tighten the screw.

Screws should never be inserted directly into Corian® Solid Surface.

14. Backsplash installation

If a square upstand or full-height backsplash will be installed above the worktop (i.e. the worktop goes within 1.5 mm of the wall), now is the time to fit it.

Steps to completion:

1. Check and scribe for proper fit, allow for expansion.
2. Clean both the backsplash and worktop with denatured alcohol and a clean cloth.
3. Place a continuous bead of colour-coordinated sealant the full length of the bottom edge of the backsplash.

4. Turn the backsplash over and press against the worktop and the back wall using a rolling action toward the wall. Any sealant which is smeared onto the backsplash should be removed with a plastic silicone tool, followed by a clean white cloth dampened with denatured alcohol.
5. Caulk inside corner between backsplash and worktop using “push” method if desired.

Do not adhere full-height backsplashes or wall cladding to worktops using DuPont™ Joint Adhesive or Corian® Joint Adhesive. 100% silicone sealant should be used as it allows for movement due to building structure settling and allows possible future replacement of the worktop.

15. Tap Holes

Tap holes can now be made if previously not done in the fabrication workshop. This can be achieved by using a router with a sharp straight carbide-tipped router cutter and a template, or by using a hole saw.

It is essential that the top and bottom edges be sanded or routed to a 1.5 mm radius to avoid creating stress risers.

16. Inspection and Clean-up

- If not done previously, sand entire top with a random orbital sander attached to a dust vacuum to the desired finish.
- Wash the top to remove any sanding residue. Buff the entire surface with the appropriate 3M™ Scotch-Brite™ Disc

to provide a uniform surface appearance. Other finishing systems are available for other finishes, see *Corian® Solid Surface Fabrication/Installation Fundamentals – Finishing and Polishing* (K-25298).

- Clean up the site thoroughly, removing all excess materials.
- Remember to leave any sheet off-cuts for future repairs with the customer. If the material installed is directional mark the sheet orientation on the bottom of the installed sheet and the spare material.
- Provide the customer with use & care information.

D. Referenced documents

Corian® Solid Surface Fabrication/Installation Fundamentals – Safe Handling and Storage (K-25285).

Corian® Solid Surface Fabrication/Installation Fundamentals – Structural Support (K-25291).

Corian® Solid Surface Fabrication/Installation Fundamentals – Seaming (K-25292).

Corian® Solid Surface Fabrication/Installation Fundamentals – Finishing and Polishing (K-25298).

Corian® Solid Surface Fabrication/Installation Fundamentals – Approved Cleaning Solvents (K-25701).

Corian® Solid Surface Technical Bulletin – Residential Hob Cut-outs (EMEA).

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