

FASTENING TO OTHER PRODUCTS

Introduction

This fabrication bulletin addresses bonding and fastening a number of products to Corian® Solid Surface.

Overview

Designs frequently call for Corian® Solid Surface to be fastened to other materials. As Corian® Solid Surface will expand at a different rate with changes in temperature than other materials it is important to incorporate this into the design. Unless the area to be fastened is small, rigid bonding methods should be avoided. A flexible bonding method such as silicone adhesive is preferred.

A. Corian® Solid Surface to wood/plywood

Corian® Solid Surface can be adhered to wood or plywood. Silicone adhesive is preferred as it allows for differential movement with changes in temperature and humidity. Clear contact adhesive may be used in limited applications where only a small area with maximum length of 30 cm is adhered. Clear contact adhesive cannot accommodate the movement required for larger pieces.

Silicone

Steps to completion:

1. Clean both surfaces that are to be adhered together thoroughly with clear, denatured alcohol¹.
2. If flexibility is required with the application, place dabs of silicone approximately 100mm apart on the surface that is to be adhered. Where flexibility is not as essential, place a bead of silicone around the perimeter of the surface to be adhered to and place an “S” pattern bead through the centre.

¹Denatured 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.

3. Press the Corian® Solid Surface or wood into position and firmly clamp.

Clear Contact Adhesive

Steps to completion:

1. Sand both surfaces to be adhered with medium (180 grit) abrasive. Remove all dust.
2. Spread the clear contact adhesive over both Corian® Solid Surface and wood surfaces to be adhered, making sure the adhesive is in a thin, even coat.
3. Wait until both surfaces are dry to the touch, then carefully position and clamp together.

HELPFUL HINTS

Be careful you do not damage lacquered finishes when using solvents to wipe away adhesive spills.

Many colours of Corian® Solid Surface are translucent. Any other colour of contact adhesive than clear may be visible through the surface.

B. Corian® Solid Surface to metal

Corian® Solid Surface can be adhered to metal. Only silicone adhesive is recommended. Silicones using an acetoxy cure chemistry release acetic acid during cure. If the metal is sensitive to acetic acid use a neutral cure silicone adhesive.

Steps to completion:

1. Be sure both surfaces are flat.
2. If metal is painted or coated, sand away this coating in the area to be adhered.
3. Clean both surfaces that are to be adhered thoroughly with clear denatured alcohol¹.

4. Place dabs of silicone (approximately 25 mm round) on one surface, approximately 300 mm apart.
5. Press the Corian® Solid Surface or metal into position and clamp firmly.
6. Where caulking is required, use a colour-coordinated 100% silicone sealant.

C. Corian® Solid Surface to glass

Corian® Solid Surface can be adhered to glass using a clear silicone designed for glass adhesion.

Steps to completion:

1. Clean both surfaces that are to be adhered together thoroughly with clear denatured alcohol.
2. Place dabs of silicone (approximately 25 mm round) on the surface that is to be adhered to, approximately 150 mm apart.
3. Press the Corian® Solid Surface or glass into position and clamp firmly.
4. Where caulking is required, use colour-matched silicone sealant.

D. Corian® Solid Surface to unfilled acrylic

Corian® Solid Surface can be adhered to unfilled acrylic. For small areas the acrylic may be seamed with a rigid adhesive. For larger areas silicone adhesive is required to accommodate differential expansion.

To rigidly bond acrylic to Corian® Solid Surface use DuPont™ Joint Adhesive, Corian® Joint Adhesive or clear acrylic adhesive. The clear acrylic adhesive should not be solvent based and should be compatible with cross-linked acrylics.

Rigid Adhesive

Steps to completion:

1. Prepare both pieces to be seamed by ensuring a perfect fit, and then lightly sand edges by hand to key the surface for seaming.
2. Clean both surfaces that are to be seamed together thoroughly with clear denatured alcohol.
3. Apply a generous quantity of DuPont™ Joint Adhesive, Corian® Joint Adhesive or clear acrylic adhesive to one surface.
4. Press the pieces together in position, clamp firmly and allow the adhesive to cure.
5. Trim the seam with a router, then sand to the desired finish level.

Bond larger pieces with silicone adhesive.

Silicone

Steps to completion:

1. Clean both surfaces that are to be seamed together thoroughly with clear denatured alcohol.
2. Place dabs of silicone (approximately 25 mm round) on the surface that is to be adhered to, approximately 150 mm apart.
3. Press the Corian® Solid Surface or acrylic into position and clamp firmly.

HELPFUL HINTS

Do not use any adhesive that is solvent based. Do not use extruded acrylic.

E. Mechanical fasteners

Metal or plastic inserts designed for Solid Surface may be used to mechanically fasten Corian® Solid Surface to other materials. Specialty applications may have other allowable fasteners. The design must accommodate thermal expansion in the structure to which the Corian® Solid Surface is fastened as the inserts will not accommodate any movement.

The inserts should be installed according to the manufacturer's instructions.

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

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As an alternative to silicone adhesives and sealants, MS Polymers or PU sealants can also be used for flexible bonds. All flexible adhesives require some bond thickness to allow movement. A 1.5 mm thickness would suffice for most flexible adhesives to ensure a flexible bond. They are best applied as a bead that retains some thickness after clamping. Larger pieces may require extra thickness.

F. Referenced document

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

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

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