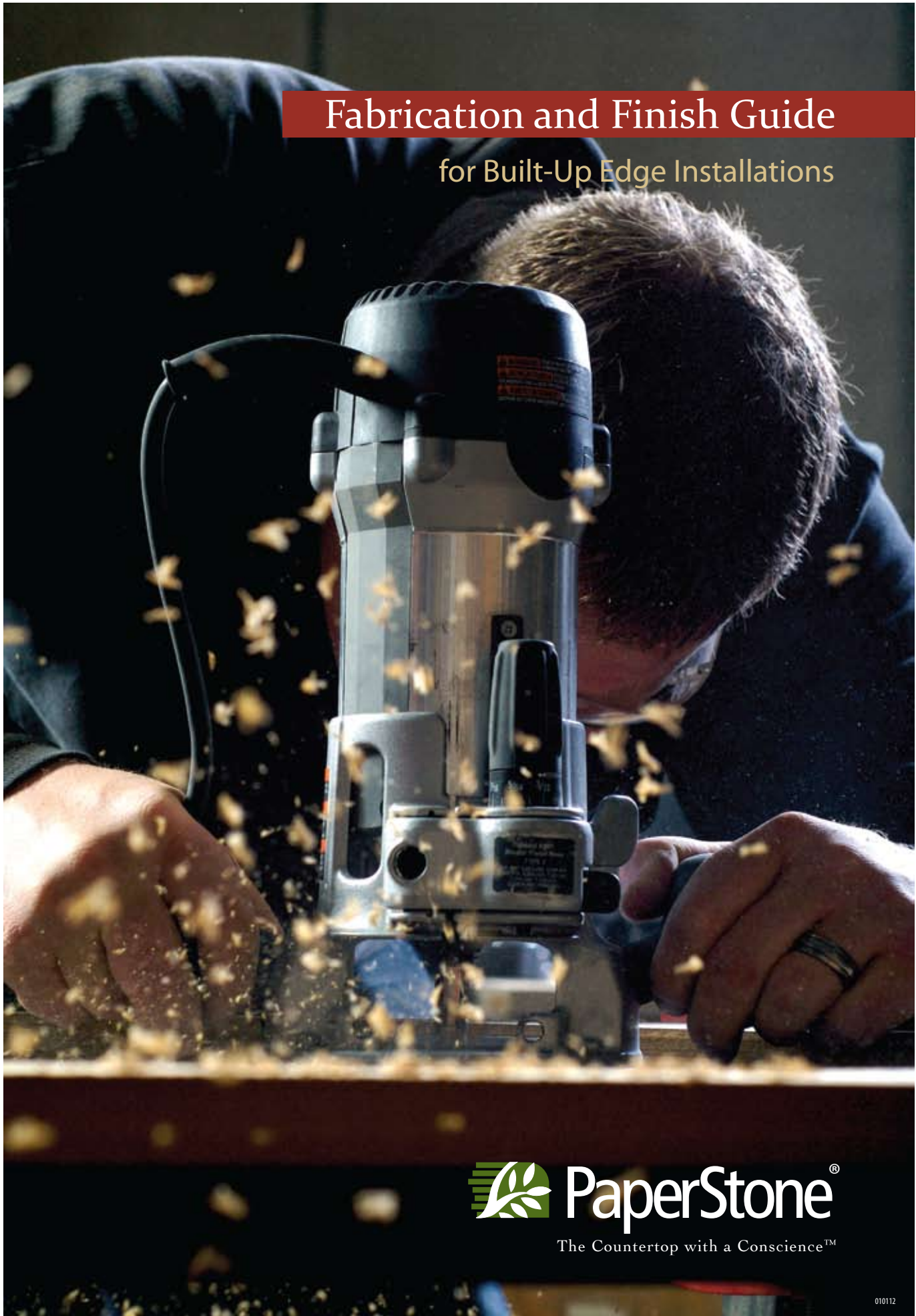


Fabrication and Finish Guide

for Built-Up Edge Installations



 **PaperStone**[®]

The Countertop with a Conscience[™]

About this Guide

This fabrication and finish guide is not written with the novice or unexperienced fabricator in mind.

Rather, it assumes you have experience fabricating granite, marble, composite or other solid surface materials and are interested in becoming familiar with the fabrication of PaperStone®.

Keep in mind that PaperStone® machines and finishes like extremely dense hardwoods and can be cut and routed with carbide-tipped shop tools.

After reading this guide, if you have questions regarding fabrication and finishing of PaperStone® please contact Don HInckley, Fabrication Manager, at 802.591.0865 or email at paperstonefabrication@gmail.com.

Welcome to PaperStone®, the greenest architectural surface on the planet.

What is PaperStone®?

This is the beginning of PaperStone®..



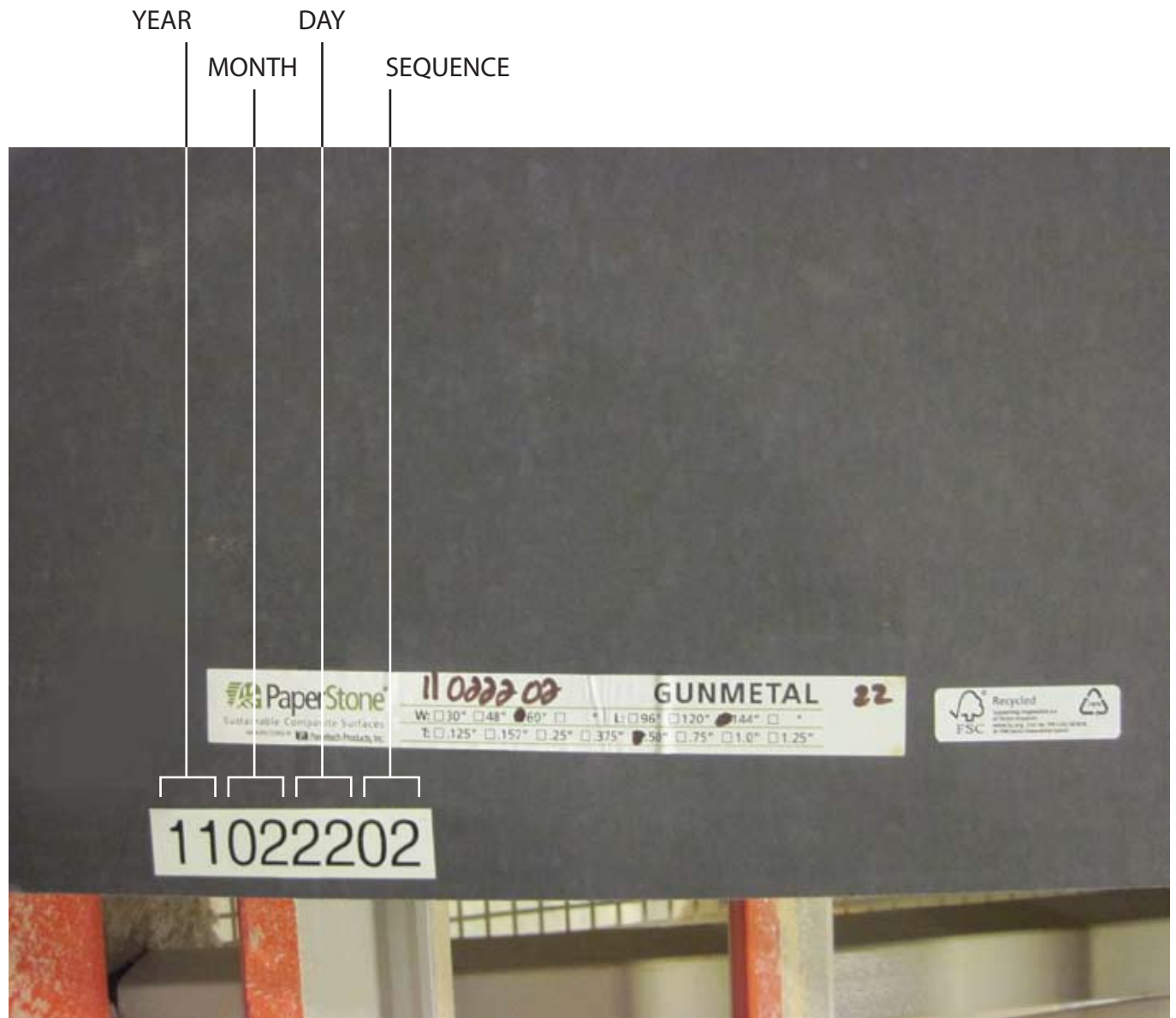
Recycled paper and old cardboard container paper is fully saturated with a pigmented PetroFree™ resin, then dried to a "B" stage paper (tacky but not sticky). Because of the natural characteristics of recycled paper, not all saturation levels are the same across the sheet. Unlike virgin fiber, this *flocculation* is what gives PaperStone® its unique, mottled look.

Both the mottling and speckling of PaperStone® are enhanced by sanding away the surface micro-textured resin layer.

- Stacked layers of post-consumer recycled paper that have been saturated with petroleum-free resin and pressed under heat and pressure into a solid sheet.
- PaperStone® is not only recycled but also recyclable.
- No thermoset process means no off-gassing.
- Using pigments rather than dyes assures superior color stability.

Panel Identification by Label and Serial Number

Individual PaperStone® panels are trackable by serial number



Cutting PaperStone® Panels

PaperStone® machines like extremely dense hardwoods



Standard carbide-tipped tooling works best for cutting PaperStone®.

To help prevent burn marks, do not stop the saw until the cut is completed.

Burn marks can be removed with sanding, but it's easier to avoid them in the first place.

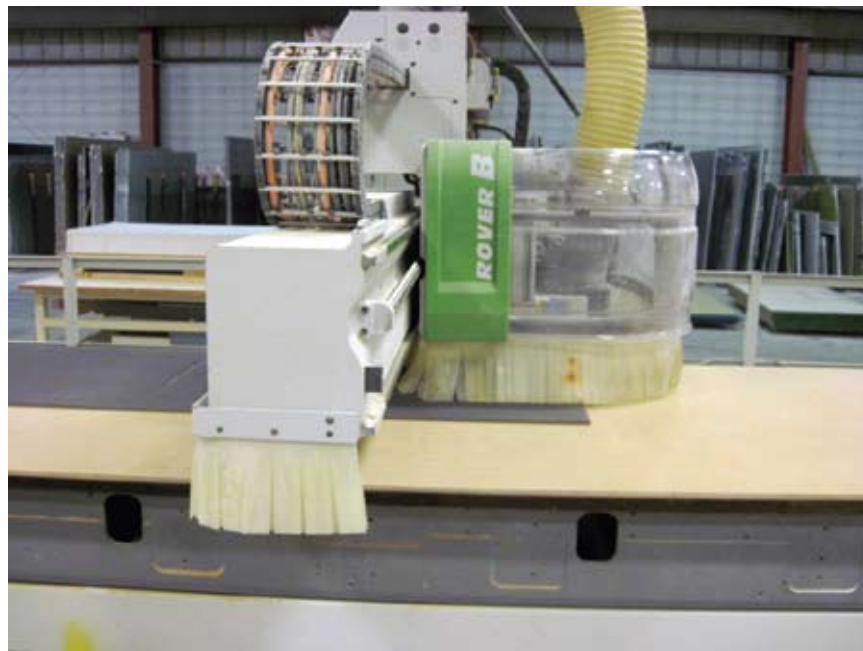


CNC Tooling Recommendations

Carbide-tipped bits and blades aid cutting and routing



- 18,000 RPM
- 300 inch per minute feed rate (762 cm)
- Must move the chip out fast...if you see burning, you are moving too slowly.



Layout



Layout like you would any other solid surface type project.

Preparing the Built-Up Edge



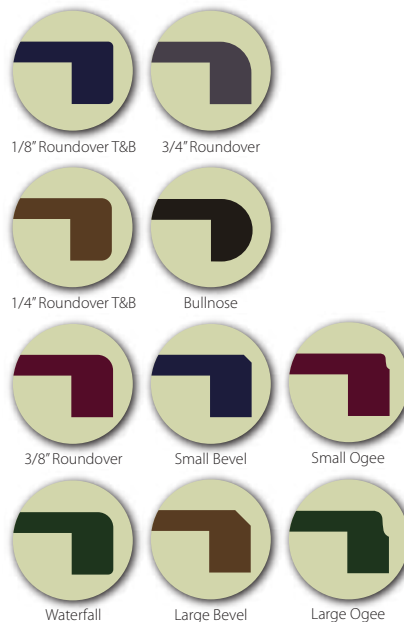
- Standard PaperStone® built-up edge glue up is two 1/2" x 2-1/2" strips adhered to a 1/2" thick PaperStone® panel making a 1-1/2" built-up edge which can then be routed to selected edge profile.

IMPORTANT!

When building up the edge, you **MUST** scuff all surfaces that will be touching the adhesive. (See next page.)



Typical PaperStone® Built-up Edge Profiles



Scuffed Surface



Using a belt sander with 100 grit you must aggressively remove the resin layer on the surface to be glued. Get down into paper.

Glue Up



- **PaperStone® Adhesive is a two-part epoxy especially formulated to bond PaperStone®**

We recommend using PaperStone® Adhesive available from Paneltech in 450 ml and 50 ml sizes. This adhesive bonds in about one hour, depending on temperature. Clean all surfaces to be glued with denatured alcohol. When using a new cartridge, purge a small amount of adhesive directly from the cartridge to be sure both sides are flowing. Affix the mixing tip to the cartridge and purge about the length of the tip onto a paper towel. This insures that the adhesive is well mixed prior to glue up. Tips can only be used once.

Note:
As with any epoxy material it is important to wear protective gloves and avoid direct contact with skin.



- **Cox PPM 300LV Adhesive Mixing Gun**
\$45.84

Available from Amazon:
<http://www.amazon.com/PPM-300LV-Cartridge-Viscosity-Manual-Applicator/dp/B001SN7RJ0>

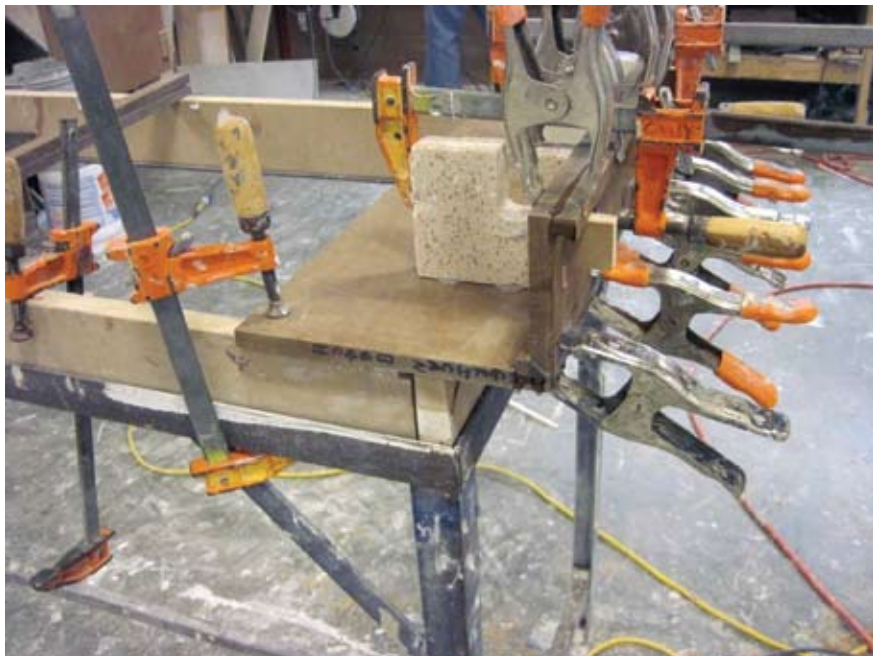
(Please see PaperStone® Marketing Materials and Accessories sheet included in this packet.)

Clamping Built-Up Edge



- Clamp built-up edge with 4" spring clamps (Pony clamps work well) every 4" until adhesive is set (about 1 hour).

Clamping Cove Backsplash



- Cove backsplash is possible with PaperStone®, however some colors are going to show color variation where you cut across the end grain of the material.

Edge Clean Up



Clean up any excess adhesive and uneven edges with a router and straight edge.

Typical PaperStone® Built-up Edge Profiles



Seam Preparation



Wavy Bit (Optional. Requires specialized skills training.)



Using a wavy bit system for seaming is an excellent way to align seams and give them extra strength in the gluing process. However, it also requires specialized training and experience.

If you do not currently possess the necessary skills to use wavy bit technology, we do not recommend using it on PaperStone® seams.



Cam Lock Seam System



Trim to Fit Template

Pull the tops together and trim to fit template



Seam Pulled Together at Finish Sand

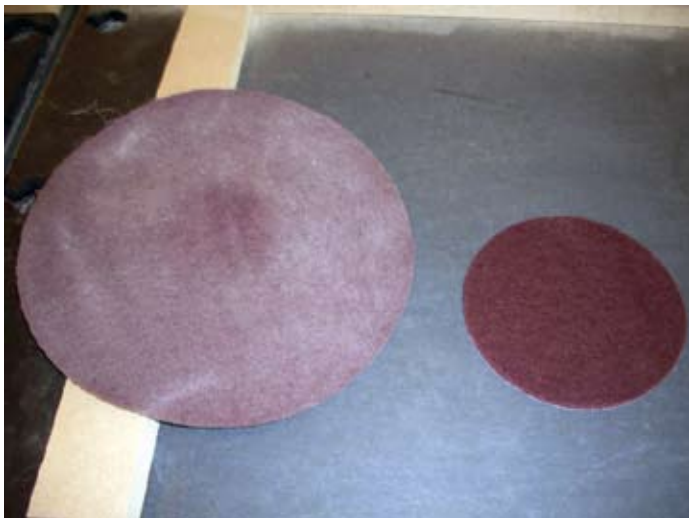


Preparing Surface for Finish



- Using a random orbit sander and 120 grit sandpaper, remove any resin pooling (excess resin on face of panel).
- Clean surface using denatured alcohol between each step.

(See detailed finish instructions on pages 17 and 18.)



- Then use random orbit sander and 180, 220 grit, followed by maroon Scotch-Brite™ 7447
- **DO NOT touch top with bare hands prior to applying finish.**

Finishing Products and Tips

While any oil based or wax based wood finish may be applied to PaperStone®, we recommend OSMO® TopOil or PaperStone® Finish. These finishes deepen the tone of the panel and add a soft luster to the appearance.

OSMO® is a permanent oil-based finish that can be easily touched up. PaperStone® Finish is a food-grade mineral oil and wax based finish that requires reapplication every few months depending on use.



Follow these steps **before** applying OSMO® TopOil or PaperStone® Finish

1. Sand the exposed countertop edges with 180 grit sandpaper, followed by 220 grit sandpaper.
2. Prepare the countertop surface with Option A or B...
 - Option A: Scotch-Brite™** (maintains PaperStone's natural micro-textured surface.)
 - Sand the PaperStone® surface with a maroon non-woven pad (7447 Scotch-Brite™ or similar product) to achieve an even surface treatment. Non-woven pads can be used with a vibrating orbital sander or by hand. Be sure to treat the entire surface evenly.
 - Option B: Sanding** (removes the micro-textured layer for a smoother PaperStone® surface.)
 - Sand the PaperStone® surface with 220 grit sandpaper using a vibrating orbital sander or by hand. Be sure to sand the entire surface evenly.
 - NOTE: Depending on condition of top surface, sand with coarsest required grit to remove any rub marks or scratches, then work up to 220 grit sandpaper.
 - Finish with a maroon non-woven pad.
3. Clean surface with water (or denatured alcohol) and allow to dry after each sanding step.
4. DO NOT touch the prepared surface with bare hands prior to finish being applied.

See enclosed PaperStone® Care & Maintenance Guide for usage, cleaning and maintenance guidelines.

Complete application instructions on next page >>

Finishing Products and Tips (continued)

OSMO® TopOil

OSMO® TopOil is a long lasting micro-porous clear, matte wood finish for kitchen work tops and general interior joinery (table tops and furniture). The TopOil surface is extremely tough and hard-wearing. When dry, the finish is resistant against moisture and staining. Dirt can easily be removed. Application is in 2 to 3 thin coats applied with a lint free cloth or paper towel. Renovating, even partially, is easy. Just clean and re-treat worn areas. No sanding, no repair marks and no removal of previous TopOil finish. Use lint-free cloths to apply OSMO® TopOil to PaperStone®.

To avoid streaks do not use a brush. It is important to wipe away all excess oil as PaperStone® will not absorb it.

How to apply:

1. Make sure the surface is clean, dry and free of any dust. Apply a coat of OSMO® TopOil to the installed countertop using a soft, clean cloth. Rub the finish into all exposed areas, spreading evenly and generously in a circular motion to ensure consistent coverage.
2. Wipe off excess finish, then continue buffing with clean cloths or towels. Buffing should continue until finish no longer changes appearance. Keep changing cloths and wiping until you cannot see fingerprints.
3. Allow first coat to dry at least two hours.
4. Apply a second coat of TopOil and allow to sit overnight to fully cure prior to use (at least 8-10 hours).

SAFETY NOTE from OSMO MSDS –

Rags, steel wool or waste soaked with this product may spontaneously catch fire if improperly discarded. To prevent this, place rags, steel wool or waste in a sealed, water filled, metal container immediately after use.

PaperStone® Finish

PaperStone® Finish is an eco-friendly, natural wax finish. It deepens the tone of the panel and provides a satin sheen. PaperStone® Finish contains carnauba wax, bees wax and food-grade mineral oil.

An ample supply of paper towels (blue shop towels work well) will be needed for finish application. Use lint-free cloths to apply PaperStone® Finish. It is important to wipe away all excess Finish as PaperStone® will not absorb it.

How to apply:

1. Make sure the surface is clean, dry and free of any dust. Apply a generous amount of PaperStone® Finish using a paper towel or by hand.
2. Remove excess Finish by using clean paper towels (change towels often) until fingerprints are not visible when surface is touched. If fingerprints are still visible, continue rubbing off Finish residue with additional clean towels. It is important to use clean towels and change them often. Using a towel too long just reapplies excess finish that you are trying to remove.
3. Buff Finish off until no fingerprints are visible. Once this is accomplished, PaperStone® Finish will be hardened.
4. If additional coats of PaperStone® Finish are desired, apply with steel wool. Use 0000, 000, 00 or 0 coarseness which will slightly buff the surface during application without damaging the PaperStone® material.
5. Follow directions for removing excess Finish with paper towels until no fingerprints are visible.

PaperStone® Bee's Wax Spray Top Coat

We recommend spraying on a top coat of PaperStone® Bee's Wax to provide further surface protection after the final application of OSMO® TopOil or PaperStone® Finish is cured. PaperStone® Bee's Wax should be reapplied weekly or even more frequently as a maintenance coat. The surface should not show fingerprints and it does not leave a wax build-up. Think of using PaperStone® Bee's Wax like maintaining a butcher block or wooden salad bowl.

Completed Project



Failed Joint (no scuffing)



- Surfaces were not scuffed properly prior to glue up creating poor adhesion and a weak joint.

(See pages 6 and 7).

Good Joint



- This break demonstrates how a proper glue joint should respond. The product itself should fail before the glue joint fails.

Questions?

If you have questions regarding fabrication and finishing of PaperStone® please contact Don Hinckley, Fabrication Manager, at 802.591.0865 or email at paperstonefabrication@gmail.com

Sustainable Composite Surfaces by

 **Paneltech Products, Inc.**

2999 John Stevens Way | Hoquiam, WA 98550

Manufactured in Hoquiam, Washington, USA at the edge of the Olympic Rainforest since 2004. PaperStone is a beautifully finished, earth-friendly, sustainable composite surface.