

Information Guide



PaperStone[®]

The Countertop with a Conscience[™]

PaperStone®

The Countertop with a Conscience™



*A part of PaperStone's DNA...
100% post-consumer recycled
paper and OCC (old cardboard
container) paper.*



**Sustainability is mainstream.
A powerful concept...a natural choice.**

When materials are made with this principle in mind, an earth-friendly idea becomes a natural choice. As a value it means clean air, water and responsible resource management. Choosing green products means living, working, learning and playing in a healthier world.

PaperStone® is committed to innovative green products that contribute to an eco-friendly, holistic lifestyle that is smart, elegant and responsible.

Extremely strong, beautiful and warm to the touch.

PaperStone® is not just an attractive material that is produced in a socially responsible manner. It is also strong and tough. It has steel-like strength in span, stone-like beauty and it can be worked like fine

hardwoods. PaperStone® is innovative and cost competitive. It is a beautiful, heavy-duty composite known for its environmental sustainability, its contemporary appearance and its remarkable warmth to touch. PaperStone® is durable and recommended for residential kitchen, baths and many commercial uses. Most PaperStone® colors are NSF certified as safe for direct food contact when used as a food preparation surface.

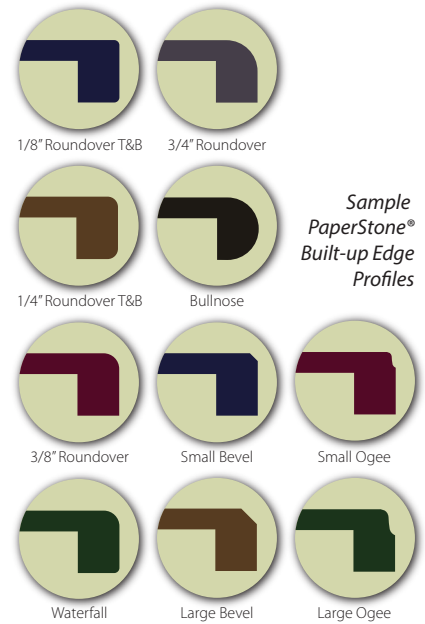
Most PaperStone® products are manufactured from 100% recycled paper and our own proprietary resin†. Many colors are certified to FSC (Forest Stewardship Council) standards by the SmartWood program of the Rainforest Alliance. Specifying PaperStone® may help you earn LEED credits.



BRETT DRURY ARCHITECTURAL PHOTOGRAPHY INC.

PaperStone®

Authentically Green and Genuinely Affordable



Built-up edge countertops are beautiful, durable, affordable.

- Half-inch built-up edge technology is extremely solid and durable, yet weighs and costs much less than full thickness countertops.
- Easily worked to accept standard and custom edge profiles—virtually indistinguishable appearance from full thickness PaperStone® panels.

Phenolic resins...well-tested, reliable

PetroFree™ phenolic resins are used to make PaperStone®. Phenolic resins have been around nearly a century since Henry Baekeland invented Bakelite, the original, ubiquitous black thermoplastic case for rotary telephones. Phenolic resins have long been prized for their abrasion resistance and are still preferred for high quality automotive brake pads.

How PaperStone® is made

What sets PaperStone® apart from competitive products are Paneltech's highly-skilled and creative technical staff, the company's own resin laboratory, resin plant and commitment to the cleanest and greenest products and processes that are technically and economically possible. Paneltech's PetroFree™ resins are made from

industrial by-products that would otherwise go into the waste stream and have been specially designed to produce a hardwood-like, highly workable, non-brittle composite panel.

PaperStone® becomes a composite product when specially-produced sheets of recycled paper are saturated with PetroFree™ resins and pigment, then compressed under heat and pressure. This 'cross-links' the resin polymer in all three dimensions producing a dense, homogeneous and essentially non-porous composite product that does not delaminate. PaperStone® has been tested under the most stringent testing protocols. It contains no detectable formaldehyde and emits no VOCs.

PaperStone® 10-Year Limited Manufactured Panel Warranty

Our 10-Year Limited Warranty applies to PaperStone® panels installed in commercial or residential projects and is a product warranty covering manufacturing defects. See page 13 of this guide for more details.

† Leather is not currently made with recycled paper.



The mark of responsible forestry



Built-Up Edge and Full Thickness Countertops plus other creative uses



Typical applications

PaperStone's product category is architectural solid surface. It is specified by architects and interior designers for commercial and residential uses.

Other uses for PaperStone® include...

- ~ Table and countertops
- ~ Restroom vanities and partitions
- ~ Interior decorative wall paneling
- ~ Room dividers
- ~ Window sills and door thresholds
- ~ Restaurant food preparation surfaces
- ~ Fire door surfaces
- ~ Lab tops
- ~ Desk tops
- ~ Food carts
- ~ Chair rails
- ~ Furniture
- ~ Signage
- ~ Tiles
- ~ Cutlery handles
- ~ Cutting boards
- and many more creative uses



PaperStone® strength

PaperStone® is extremely strong, dense and stable. No underlayment is required for support of 1/2" or thicker material. It can withstand 45,000 pounds (20,412 kg) of compressive pressure per square inch.

A 1/2" (13 mm) thick sheet will cantilever 9" (23 cm) and a 3/4" (19 mm) thick sheet will cantilever 18" (46 cm) with deflection of less than 1/16" (0.16 cm).

PaperStone® is extremely hard and practically impervious to water. It exhibits excellent chemical resistance, resists scratching and is highly resistant to staining. PaperStone® can tolerate temperatures to 350° F (176.6° C), making it an excellent choice for kitchen uses. PaperStone® has earned a Class A fire rating.



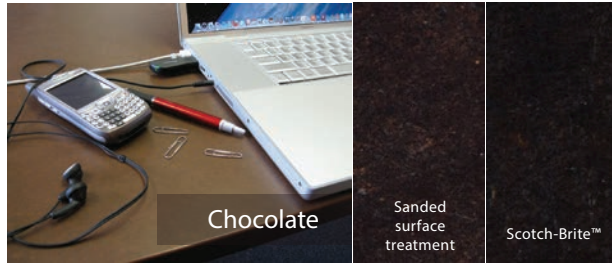
A green, food-safe surface

PaperStone® is NSF® certified and is excellent as a restaurant food preparation surface.

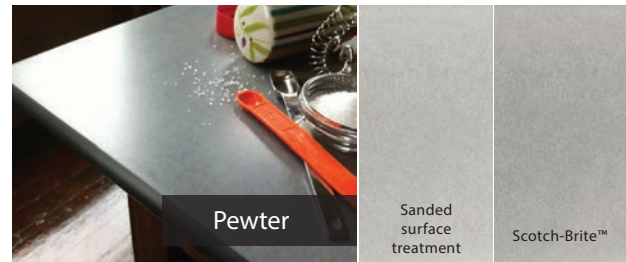
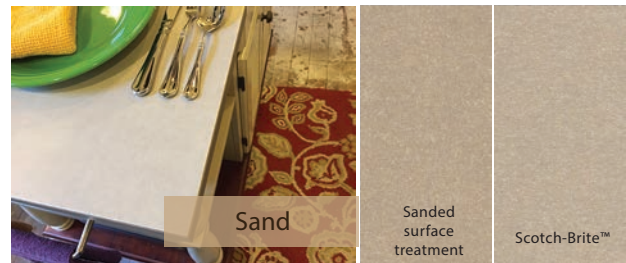
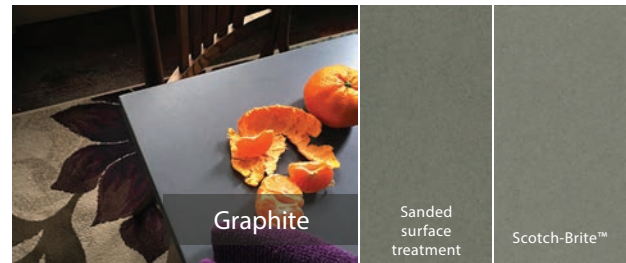
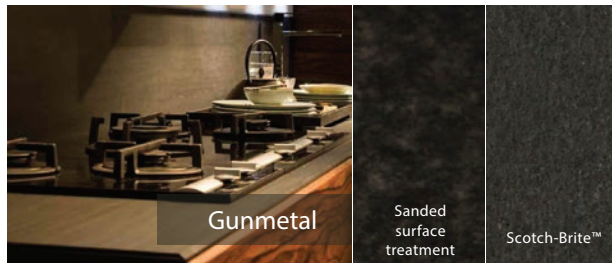


PaperStone®

Available in 11 Warm, Rich Earthtones



 PaperStone®
Design Collection . . . now in lighter shades!



paperstoneproducts.com | 360.538.9815

Natural Appearance, Patina and Aging

PaperStone® is a natural material that ages like fine hardwood

Solid Color

PaperStone's color comes from the pigments used in the manufacturing process and the natural color of the recycled paper. PaperStone® is a solid surface composite – the color is not a surface treatment – it runs through the entire depth of the product.

Patina and Aging

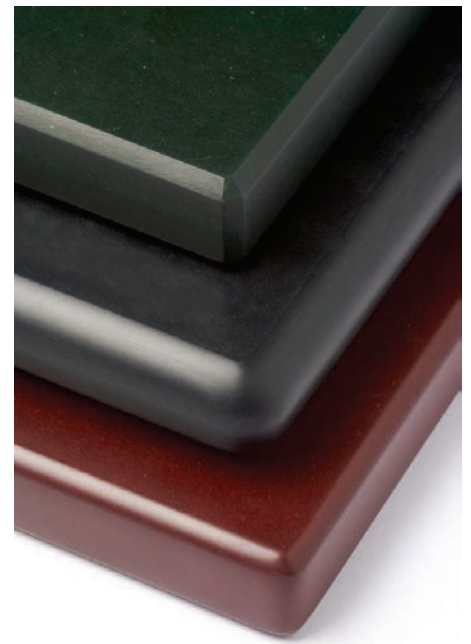
PaperStone® will develop a pleasing, seasoned appearance that is an inherent characteristic of the natural materials used to manufacture it. The aging process develops over time and there may be deeper luster in areas of heavier use. Overall, it will take on a softer, richer tone. To further understand the patina and aging process there are three important points to remember.

- Aging begins with manufacture and takes a number of years to complete. It is similar to the manner in which natural wood products acquire a deeper, richer tone over time.
- The effect of aging in PaperStone® is primarily a result of the color of the recycled paper along with the aging of the phenolic resin component which begins as pale amber and deepens to a rich shade of sienna.
- The aging and patina process is a natural progression. PaperStone® is an eco-friendly product. Because of variations in natural source materials, actual product appearance may vary from samples and lot to lot. For this reason, there may be subtle differences between panels at the time of installation, even if they are from the same batch. However, as the panels age, variability converges, creating a uniform appearance over time.

Tonal Variation

Color and brightness may vary from panel to panel and even within a panel making each unique. This variation is expected in a product composed of natural materials. PaperStone® samples may appear different than the installed product due to the age and patina of the samples and the differing thicknesses of the materials.

- **Striations and Mottling** — Due to natural variation in the recycled paper used to make PaperStone®, the material displays a mottled appearance, in which panels show a striated effect lengthwise. This is less apparent in dark colors; however, the mottled appearance is still visible. Leather – which is not currently made from recycled paper – shows minimal striations.
- **Surface Texture** — Raw PaperStone® panels have a matte, textured surface; this is a natural characteristic of the resin-saturated paper that is compressed under heat and pressure, not molded, into panels. When PaperStone® is first installed, more texture will be apparent; over time the surface will become smoother and more luster will develop. For a polished, smooth appearance, PaperStone® can also be sanded prior to applying finish to the panel.



Aging Progression by Color

Cabernet - deep wine red, darkens slightly, becoming warmer in tone.

Chocolate - medium brown tone, ages to a warmer brown with a magenta hue.

Denim - rich, dark blue, tends to deepen in tone over time.

Gunmetal - becomes darker with age, taking on a pleasing patina, more noticeable on edges.

Leather - uniform brown that ages to a darker, richer tone over time. Unique among PaperStone® colors, Leather is not currently made with recycled paper.

Mocha - rich, mottled brown shows minimal color change over time.

Sienna - shows almost no discernible effects from light exposure, age or wear.

Slate - shows almost no discernible effects from light exposure or age.

PaperStone® Solid Color Panels:

5' x 12' (1524 x 3657 mm), 5' x 10' (1524 x 3048 mm),
5' x 8' (1524 x 2438 mm), 30" x 12' (762 x 3657 mm),
30" x 10' (762 x 3048 mm), 30" x 8' (762 x 2438 mm),

Design Collection Panels:

5' x 12' (1524 x 3657mm)

Standard thicknesses:

1/4" (6.5mm), 3/8" (9.5mm), 1/2" (13mm), 3/4" (19mm),
1" (25mm), and 1-1/4" (32mm)

Other thicknesses and sizes available by special order.
Contact your distributor for details.

PaperStone®

LEED® Certification Information

Because PaperStone® is certified to Forest Stewardship Council standards by the Smartwood program of The Rainforest Alliance, specifying and using PaperStone® in a building project may help to acquire Leadership in Energy and Environmental Design (LEED®) points toward certification.

The LEED Green Building Rating System®, developed by the U.S. Green Building Council under contract with the U.S. Department of Energy, is a voluntary standard for developing environmentally responsible, low emission, high-performance, sustainable buildings. LEED® certification is for the entire construction project; materials and products used in buildings are not individually certified. Through a rigorous process of third-party verification by the Green Building Certification Institute (GBCI) the project earns points toward achieving a particular level of certification (Certified, Silver, Gold or Platinum).

Use of PaperStone® may contribute to the accumulation of up to four LEED® points in selected credit categories of Materials and Resources, Indoor Environmental Quality and Innovation in Design as follows:



ClimateWorks Foundation, San Francisco, features a LEED® Platinum interior. This conference and reception view shows an impressive conference table featuring a PaperStone® top.
PHOTO: BRUCE DAMONTE

Materials and Resources Recycled Content: LEED 2009 awards points for the use of products that contain recycled materials. Credit levels have specific thresholds for the required percentages of post-consumer recycled material or pre-consumer recycled material. Paper made from 100% post-consumer waste is used to manufacture PaperStone® (except Leather).

Indoor Environmental Quality LEED 2009 may award a Point if all composite wood and agrifiber products installed in the building interior contain no added urea-formaldehyde resins. Additionally, any laminating adhesives used for material installation may not contain added urea-formaldehyde resins. PaperStone® contains no added urea-formaldehyde resins and has been thoroughly tested and certified as VOC-free, including formaldehyde.

Innovation in Design Exemplary Performance: Under LEED 2009, additional points can be earned when credit level requirements for Recycled Content are exceeded.

Individual measurement systems have been developed to rate and certify various building types in the commercial, institutional and residential business sectors of the construction industry. As the LEED® credit category terminology and point qualification process varies among different types of buildings, prospective users of PaperStone® should consult the relevant LEED® rating system reference guide for the specific requirements to certify their construction project. A PaperStone® data sheet will be provided to support the LEED® submittal process. Refer to the table on the next page for more details on how PaperStone® can assist a commercial, institutional or residential project in obtaining points toward certification.



PaperStone® Contributions

toward achieving LEED® Green Building Rating System points

[Leadership in Energy and Environmental Design]

Credit Category	Intent	Qualification Requirements	Points Earned	PaperStone® Contribution
Reference: Green Building Design and Construction, 2009 Edition [Commercial and Institutional Buildings]				
MR Credit 4 Recycled Content	Increase demand for products that use recycled materials. Reduce impacts from the extraction and processing of virgin materials.	Use of recycled materials is at least 10% of the total value of all project materials by cost. Calculation is based on the sum of post-consumer content + 1/2 pre-consumer content.	1	100% post-consumer recycled paper constitutes 55% of each PaperStone® composite panel by weight.*
OR . . .		... at least 20% of the total value...	2	
IEQ Credit 4.4 Low-Emitting Materials — Composite Wood and Agrifiber Products	Reduce the quantity of indoor air contaminants that are odorous and/or unhealthy for installers and occupants.	All composite wood and agrifiber products installed in the building interior contain no added urea-formaldehyde resins. Additionally, any laminating adhesives used for material installation may not contain added urea-formaldehyde resins.	1	PaperStone® is a composite wood product that contains no added urea-formaldehyde resins and has been thoroughly tested and certified as VOC-free, including formaldehyde.
ID Credit 1 PATH 2 Exemplary Performance	Encourage strategies for performance that greatly exceeds credit category thresholds.	MR Credit 4: An Innovation in Design credit may be earned for exemplary performance by achieving a total recycled-content value of 30% or more.	1	100% post-consumer recycled paper constitutes 55% of each PaperStone® composite panel by weight.*

Credit Category	Intent	Qualification Requirements	Points Earned	PaperStone® Contribution
Reference: LEED for Homes Reference Guide, 2009 Edition				
MR Credit 2.2 Environmentally Preferable Products — Recycled Content	Increase demand for environmentally preferable products containing recycled material. Reduce impacts from the extraction and processing of virgin materials.	Recycled products constitute at least 90% of the specific building component by weight or volume (e.g., all countertop surfaces in the house) and recycled content products contain at least 25% post-consumer recycled material or 50% pre-consumer recycled material. Additionally, cabinet, counter and trim products may not contain any added urea-formaldehyde resins.	.5 per building component	100% post-consumer recycled paper constitutes 55% of each PaperStone® composite panel by weight.* And PaperStone® contains no added urea-formaldehyde resins. * except Leather.

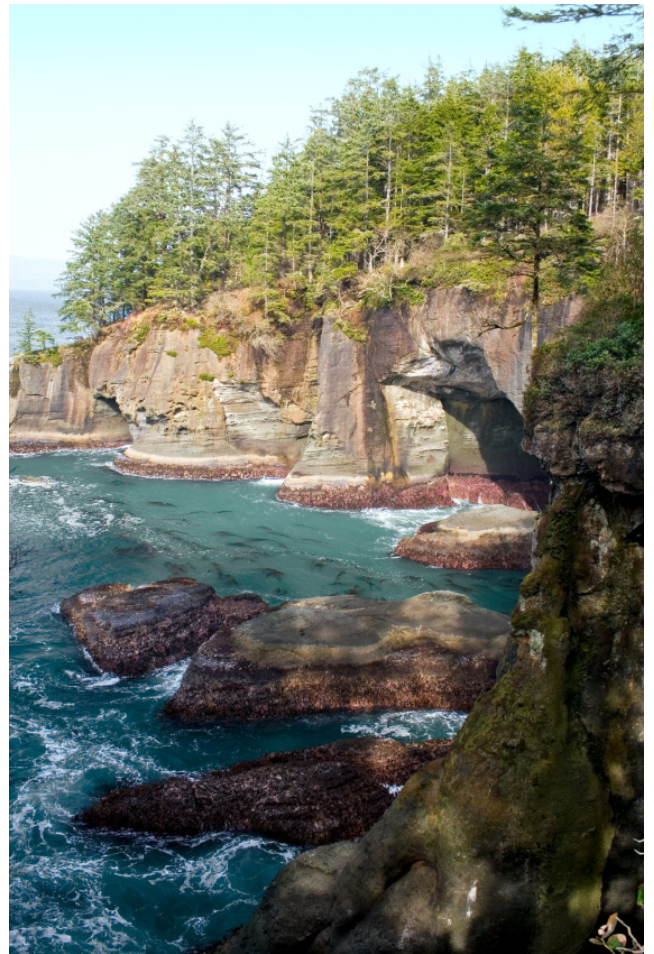


Easy on the Environment

A 1/2" by 5' by 12' (2.54 x 152.4 x 366 cm) slab of PaperStone® versus a traditional phenolic composite manufactured from virgin fiber and typical, commercially produced resin saves:

- 616.5 (2,333.7 liters) gallons of water
- 1,000,000 BTU's of energy
- 65.5 pounds (29.7 kg) of solid waste
- 127 pounds (57.6 kg) of greenhouse gases
- 27.5 pounds (12.5 kg) of petroleum-based phenol

Data obtained by using an EPA energy use/savings calculator.

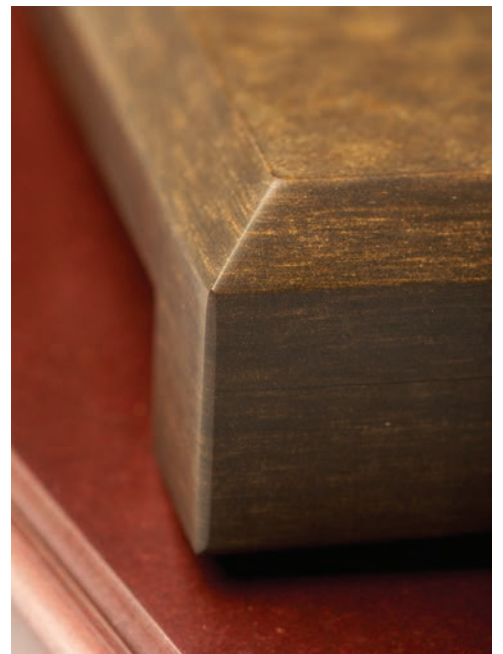


*Cape Flattery rocks and caves on the tip of Washington State.
The northernmost point in the continental US.*

Built-up Edge Installations Save on Material, Reduce Costs

Installation efficiencies help make PaperStone® a natural choice.

Because of PaperStone's superior strength it can be installed as thinner panels with a built-up edge. This not only saves on material, but also on cost.



PaperStone®

Technical Specifications

PaperStone® is made from 100% post-consumer recycled paper saturated with our PetroFree™ phenolic resins and natural pigments. Heat and pressure transform this mixture into a thoroughly impregnated network of cellulose fibers that give PaperStone® its hardness, density and strength in span for cantilevered designs.



PaperStone® Specifications

Water Absorption (by weight)	0.82%
Density (g/cm3)	1.4-1.45
Internal Bond	1,225 psi
Modulus of Rupture (flexibility)	
Face	
X direction	24,320 psi
Y direction	24,080 psi
Edge	
X direction	21,834 psi
Y direction	21,413 psi
Modulus of Elasticity	
X direction	1724.25 ksi
Y direction	1666.58 ksi
Compressive Strength	
Z direction (face)	45,324 psi
X direction	23,200 psi
Y direction	22,560 psi
Coefficient of Thermal Expansion	
Z direction (10 ⁻⁵ in/in/°c)	2.62
X direction (10 ⁻⁵ in/in/°c)	3.64
Y direction (10 ⁻⁵ in/in/°c)	3.48
Izod Impact Strength	
Face	
X direction (ft/lb/inch-width)	3.29
Y direction (ft/lb/inch-width)	2.76
Edge	
X direction (ft/lb/inch-width)	.73
Y direction (ft/lb/inch-width)	.75
Hardness Test	
Barcol Meter (Barber Coleman)	47 avg
UV Exposure	Slight darkening of lighter colors, dark colors are stable
Formaldehyde	No detected residues (less than 1 part per million)

ASTM E84 Fire Test Results

Flamespread Index:	(20) Class A Rating
Smoke Developed Index:	(110) Class A Rating

PaperStone®

Care and Maintenance

PaperStone® is a beautiful, sustainable composite material that is dense, durable and easy to care for. Due to its low porosity it is resistant to staining from food products or household cleaning products.

 *It is recommended that an initial sealing finish be applied to your new countertop to enhance the natural color of the panel and protect against possible spotting from oily foods left on the surface for prolonged periods.*

Refer to the PaperStone® Fabrication and Finish Guide for more information on finish choices and application techniques.



How to care for your PaperStone® countertops on a daily basis

DO —

- Do use a cutting board rather than cutting directly on the PaperStone® surface.
- Do use a hot pad or trivet to protect the countertop and finish from excessive heat.
- Do wipe up spills immediately.
- Do wash with hot, soapy water; mild, non-abrasive, eco-friendly kitchen cleaner or bleach/water solution (*see reverse side for more information*).

 *PaperStone® is a green product. Look for earth-friendly cleaners. Harsh chemicals can harm people and the environment.*

- Do dry counter with a soft towel after washing to eliminate water spotting.
- Do use The Original Bee's Wax® spray wax or apply a coat of paste wax after cleaning with a bleach/water solution or when water doesn't seem to bead up anymore or the luster seems to have diminished. Generally, it is not necessary to reapply The Original Bee's Wax® after every cleaning.

 *When using The Original Bee's Wax®, spray on a liberal amount. Wipe onto the entire surface, ensuring it is spread evenly, then wipe off the excess using a soft, clean cloth towel until the appearance of the surface no longer changes. Allow to dry for a few minutes. The surface should not show fingerprints when touched. Time between applications of The Original Bee's Wax® varies according to use. If the countertop is cleaned aggressively, it may need to be applied more often than when a mild dish soap and soft cleaning cloth is used. The overall look of the countertop will tell you how often to apply The Original Bee's Wax®. Application of the wax will help protect the finish. > >*



Care and Maintenance Continued

Using a mild bleach/water cleaning solution

- A cleaning solution made from standard bleach diluted down at least 10 times with water is also an effective cleaner and disinfectant for PaperStone® counters. It is used in the restaurant industry to wipe down food service areas and kill any food bacteria. The Centers for Disease Control (CDC) recommends a 1:10 bleach to water solution.



Note: Some states require that food-contact surfaces be cleaned regularly with a diluted mixture of bleach and water. For example, Washington State requires that restaurants and lounges use a mixture of 1 oz. bleach to 2 gallons water for daily cleaning. If you currently use a cleaning solution that contains some bleach, test before using it on a daily basis. If there is no apparent damage to the finish, continue using it. Bleach solutions only affect the finish if concentration levels are too strong.

DON'T —

- Don't cut on countertops, always use a cutting board.
 - Don't put hot items directly on the countertops.
- If the object is too hot to handle with your bare hands, use a trivet or hot pad. PaperStone® will withstand temperatures up to 350°F without warping, de-lamination, or discoloration. However, wax-based finishes and other types of finishes will not tolerate that much heat. The wax will melt and need to be reapplied. Oil-based or polyurethane finishes may also need to be reapplied if damaged by excessive heat.
- Don't use cleansers that contain bleach. *See note above concerning mild bleach and water solutions.*
 - Don't use abrasive cleaners or abrasive cleaning tools (such as sponges with scouring pads on one side or steel wool). There are many disinfecting cleaners on the market today that are clearly marked as being *not abrasive*. If swirl marks or scratches appear after cleaning, switch to a different cleaning product. Scratch marks or swirls may be removed by reapplying The Original Bee's Wax® spray wax. However, it is better to use non-abrasive cleaners and avoid scratches and swirls altogether.
 - Don't slide heavy objects, or objects with sharp edges, across the counter-top surface.
 - Don't use chemicals to clean or refinish PaperStone® surfaces unless you intend to remove the existing finish entirely and completely refinish the panel.



How to repair rubs or scratches in your PaperStone® countertops

- To remove rubs, stains or light scratches, use a non-woven pad (Scotch-Brite® maroon 7447 or similar product) to evenly buff the surface. Non-woven pads can be used with a vibrating orbital sander or by hand. Be sure to treat the entire surface, not just the problem area. If only the problem area is worked, that area will appear to have more luster with a noticeable difference in texture from areas that were not buffed. This process does not necessarily require an extreme amount of pressure; just think of it as an aggressive cleaning. After the entire section of PaperStone® has been worked over with the non-woven pad it will have a dull appearance and show swirl marks from the abrasion process. These marks will disappear after reapplication of the finish.
- After sufficiently buffing the surface to remove scuffs or scratches, remove any dust or residue completely by washing with denatured alcohol. Let stand until completely dry.
- Reapply a thin coat of the finish that was originally applied to your countertop. Refer to the PaperStone® Finishing Guide for more information on finish choices and application techniques.
- Since this is a refinish, a single coat should be sufficient. After the finish is allowed to dry completely (at least 8 hours), spray on a new coat of The Original Bee's Wax® and the countertop will be ready for use.



PaperStone® 10-Year Limited Manufactured Panel Warranty



Who is covered by this warranty?

- This warranty applies to PaperStone® permanently and properly installed in the original purchaser's residence or commercial location during the warranty period.
- It is not transferable, except in the case of a builder owner/non-resident, transferring ownership from builder to original resident occupants.

What is the period of coverage?

- This warranty remains in force for 10 years from the date of purchase.

What does this warranty cover?

- PaperStone® panels 1/4 inch (6 mm) thick or greater, permanently installed for residential or commercial countertops, wall cladding or similar uses (see uses not covered below).
- Manufacturer defects in your PaperStone® countertops.
- The obligation of Little Green, LLC and its distributors is limited, at their option, to repair or replace material found to be defective and excludes costs of removal and reinstallation.
- Remedy limited to repair, replacement of affected countertop piece, or reimbursement of original material value plus freight at manufacturer's discretion.

What this warranty does not cover...

- Any aspect of the installation of PaperStone®. This warranty covers manufacturing defects in the PaperStone® material only, it is not an 'installation' warranty. This warranty does not include plumbing, gas, electrical, tile, wallpaper, painted surface or trim cost, incurred due to replacement of your countertop.
- Panels advertised as 'discounted' or sold as 'budget' or 'industrial-grade' panels are not covered by this warranty.
- Countertops moved from their original permanent placement.
- Natural characteristics of PaperStone®, such as, but not limited to; variations in color or mottling, gloss level and texture, depth and clarity.
- Damage due to physical abuse, such as, but not limited to; excess weight, standing, sitting, walking on, impacts whether accidental or intentional, excessive heat, fire or flame.
- Staining due to chemicals, such as, but not limited to; improper cleaning solutions, paint, stain, putty oils or residue, oils, acids, metal cleaners, oven cleaners, solvents, and alkalis (see PaperStone® Care and Maintenance Guide).
- Damage or injury caused in part or in whole by acts of God, job site conditions, structural movement or settling, architectural or engineering design, accidents or vandalism.
- Seam placement or location, size, color or appearance of seams, color match from piece to piece, seam separation or opening due to movement, impacts, excess weight or settling.

- This warranty covers only the repair or replacement of the actual section of the material that is determined to have a manufacturing defect. No other cost, expenses, materials, labor, damages or reimbursements associated with the damaged products are covered under this warranty.
- PaperStone® installations in abnormal conditions, such as, but not limited to; use in showers, recreational vehicles, boats, trains or aircraft. These 'non-typical' uses may be covered under separate, application-specific warranties.
- Appearance differences resulting from variations in sanding.

How to make sure this warranty remains in effect...

- Use only PaperStone®-approved products and procedures as found in the PaperStone® Care & Maintenance Guide.
- Have your countertop inspected and refinished, if necessary, by a Little Green-approved expert every 10 years (for food and beverage stain protection).
- For more care and use information please refer to the PaperStone® Care & Maintenance Guide available at PaperStoneProducts.com.

How do you get service?

- To qualify under this warranty, the owner must provide the original sales receipt or other acceptable sales documentation, which demonstrates proof of purchase of the PaperStone® panel within the 10-year warranty period to their dealer or distributor.
- The customer must reasonably cooperate with the dealer or distributor as they seek to perform obligations under this warranty, including a visual inspection if deemed necessary by Little Green or its agents.

Options for problem resolution...

- Stains from food and beverages will be treated by a LittleGreen-approved expert. This may take more than one application. New finish will be applied after the stain removal treatment.
- Little Green will replace any area of the installation that is found to have a manufacturing defect provided the panel was installed properly.
- Little Green will pay the cost of the required product replacement. The customer will be responsible for any associated costs arising out of the replacement including: panel removal/replacement labor and materials, any plumbing or electrical disconnect/reconnect charges, tile, wall surface or cabinet repairs, or modifications that become necessary as a result of PaperStone® panel replacement.
- If after inspection, problem is deemed to be from abuse or other uncovered points outlined herein, a standard service call charge may apply.

Sustainable Composite Surfaces by



2999 John Stevens Way | Hoquiam, WA 98550 | 360.538.9815 | paperstoneproducts.com

PaperStone®

The Countertop with a Conscience™

Sustainable Composite Surfaces by



2999 John Stevens Way | Hoquiam, WA 98550

Manufactured in Hoquiam, Washington, USA since 2004.
PaperStone is a beautifully finished, earth-friendly, sustainable composite surface.

