

Caring For Your Dream Home

Lifeline™ Maintenance and Application Guide

Lifeline finishes distinguish your log home. All *Lifeline* finishes are waterborne, durable, flexible and highlight the natural beauty of your log home. They are available for both your interior and exterior walls.

General

Why apply an exterior finish?

- „ To make your home look its best.
- „ To protect your home from UV damage.
- „ To protect your wood from water damage.
- „ To provide protection from unsightly mold and mildew.

There is no secret in retaining the beauty of your log home. A little care and maintenance along with the use of quality products designed specifically for log homes will not only keep your home looking great but will also preserve the integrity of the logs and help prevent costly repairs. You can do no better than selecting any of Perma-Chink Systems' Family of *Environmentally Friendly* Log Home Products.

Lifeline Ultra-2™ followed with a clear topcoat of *Lifeline Advance*™ *Satin* or *Gloss* combine to form the ultimate exterior finish system for your log home. Through many years of research, development and experience, Perma-Chink Systems has perfected waterborne finishes that provide the following benefits.

1. *Lifeline* stains and topcoats provide the best-looking finish you can find. They distinguish your home by highlighting the grain and texture to bring out the natural beauty of your wood. Compare them to any finish you can find. Others have tried to copy the look and performance of *Lifeline* but never succeeded.

2. *Lifeline*'s high-performance polymers encase the wood fibers to protect the surface, where the protection is needed. *Lifeline* forms a flexible coating that expands and contracts to accommodate seasonal expansion and shrinking of the wood.

3. Pigments and Ultraviolet (UV) inhibitors are important components for protecting wood. Although UV inhibitors help extend the life of the finish, it is the pigments that provide long-term protection against UV rays while highlighting the natural wood grain appearance. Both *Lifeline Ultra-2* and *Lifeline Exterior* contain these necessary, valuable pigments.

As the finish wears off, pigment weathers away at the same time. Then, as maintenance coats are applied, you avoid the build-up of pigment that occurs with conventional exterior finishes. The result - Your home still looks as good after years of maintenance as the first time you finished it. Conventional exterior finishes build up layer after layer of pigment on the wood, making your house darker each time you apply another maintenance coat. The *Lifeline* system gives you the choice during maintenance coats to use pigmented *Lifeline* or clear *Lifeline Advance* topcoats.

4. All *Lifeline* stains breathe to allow the wood to dry naturally as they protect wood from absorbing moisture from rain, snow and humidity, which also helps to minimize checking.

5. *Lifeline* finishes are easy to apply, release no toxic fumes, are not flammable and clean up easily with soap and water.

How to Maintain Your Exterior Lifeline Finish?

Initial application to your exterior is two coats of *Lifeline Exterior* or *Lifeline Ultra-2*, followed by one or two clear topcoats of *Lifeline Advance Satin* or *Gloss* protective finish. During inspection and cleaning evaluate the condition of the finish to determine if any areas of the home may need another coat of *Lifeline Advance Satin* or *Gloss*.

After these applications of *Lifeline*, your exterior should require little maintenance, other than cleaning, for a period of about 3 to 5 years. If local weather conditions are severe or if the moisture content of the logs is high (over 20%), additional maintenance may be required.

Maintenance should consist of the following:

- **Semi-annual inspection** - see "Inspection", page 3
- **Periodic cleaning** - see "Cleaning", page 3
- **Maintenance coats as required** - see "Application", page 4

What to Expect?

You ask your exterior finish to do a lot. You expect it to protect your walls from the damaging effects of temperature variation, wind, rain, snow and sunlight. The effects of these elements will occur at different rates on different parts of your home. Typically, walls with southern and western exposure (which normally receive more sunlight and heat exposure) weather more quickly than walls with northern and eastern exposure. Walls protected by deep roof overhangs weather more slowly than exposed walls. Any wood surface exposed to repeated wet/dry cycles will weather more rapidly than protected areas.

Log ends should be carefully inspected, protected and maintained. Log end grain absorbs water at about 10 times the rate as longitudinal grain. Protect log ends with *Log End Seal™* to help prevent the problems associated with wet wood (mold/mildew, rot and insect infestation).

Sap bleeding out of logs can take place during the first years of seasoning and sometimes indefinitely. Wood finishes cannot prevent or control sap bleed. Sap can be removed from the surface by chilling with ice and scraping with a putty knife or removing with mineral spirits or alcohol.

Over time, checks open up in logs. These checks expose new wood to moisture brought in by wind and rain. Water-soaked wood swells and shrinks more than protected wood, resulting in more checking. Be sure to seal upward-facing checks that are greater than 1/4 inch wide if exposed to blowing rain or other water sources. Treat with *Shell-Guard® RTU* (borate-based wood preservative) prior to sealing if checks have allowed water into the core of logs. Make sure checks are dry and free of loose material.

Note: Round logs tend to weather (fade or darken) on the upper half of their outside surface because of the direct exposure to sun and rain. They also provide a surface upon which airborne contaminants settle. Usually, weathering and dirt shows first on these surfaces.

Inspection

Before we start discussing the inspection, here are a few tips.

1. Make a diagram of your home that you can carry with you while you inspect. It does not have to be fancy, just a simple plan you can use to note where something needs to be done.

2. Take pictures during your inspection. It's amazing how something you see will disappear when you go back to look for it.

3. Develop a checklist of things to look for that is relevant to your home. It's easy to forget what to look for by the time you get to the third or fourth wall.

4. Before inspecting, clean the house.

Cleaning Existing Lifeline Exterior Finishes

Cleaning exterior walls is an important step in maintaining the appearance and durability of your finish. Exterior surfaces of the home are a settling ground for dust, pollen and other airborne contaminants that dull surfaces and provide food for fungal growth.

Cleaning is also necessary to perform an adequate inspection of the condition of your exterior finish.

Wash your exterior finish just like you wash your car. The objective is to remove the contaminants without harming your finish. This can be accomplished by the following:

- Strong cleaners may damage your finish!
- *Log Wash* is specifically formulated for this cleaning application. Plan on cleaning small areas at a time since *Log Wash* needs to stay wet in order to do its job.
- Always use a mist setting on water nozzles, not a jet.
- If necessary, use soft-bristled brushes or non-abrasive pads for cleaning.

1. First, wet the walls with mist from your garden hose. Work an area only big enough that the cleaning solution is on the wall for about 5 to 10 minutes.

2. Apply the cleaning solution from the bottom up. *Log Wash* cleaning solution is most easily applied using a low pressure garden type sprayer.

3. After gentle scrubbing, be sure to thoroughly rinse all cleaners off the wall.

Remember to wash from the bottom up and rinse from the top down.

Get Up Close When Inspecting the Exterior

- Look for dust, pollen, etc. on upward facing portion of logs:
 - Clean with *Log Wash* (see *Cleaning*).
- Areas that are most exposed to weather:
 - South and west walls, which usually get more sun exposure.
 - Walls facing prevailing winds are exposed to more rain and dust.
- Inspect for any signs of weathered finish. Patterns of weathering:
 - Fading of the finish.
 - Water stains on exposed walls.
 - Evidence of water in exposed log ends.

Note: Make sure that no sprinklers direct water at the wall, including water patterns on windy days.

- Examine the topcoat. If it has dulled or lost its sheen, a maintenance coat of *Lifeline Advance* should be applied to the affected wall.
- If the color is faded it's time to apply a pigmented coat of *Lifeline* stain.
- Inspect for mold or mildew:
 - On top of finish. (was it washed off?)
 - Underneath finish.
- Seal upward-facing checks (1/4 inch or wider) using *Check Mate 2* (treat with *Shell-Guard RTU* first).
- Carefully inspect logs for signs of moisture (discolored or softened wood).
- Pay special attention to all logs and ends extending to or beyond roof overhangs.
- Inspect the integrity of all sealant joinery (*Perma-Chink*, *Energy Seal*, *Check Mate 2*) at log-log interfaces, windows, doors, checks, rooflines or any potential air or water intrusion points. Maintain as required.

Where moisture is a problem, a *Shell-Guard* treatment provides a safeguard against rot and insects. Contact *Perma-Chink Systems, Inc.* for more information.

Maintenance Application of Lifeline™

You should apply a maintenance coat of *Lifeline* when your finish has lost its sheen or it no longer repels water. Remember, it's not always necessary to refinish your entire house. Apply maintenance coats to those walls where it is required.

If the finish has faded and the color no longer looks right, it is time to apply a pigmented coat of *Lifeline Exterior* or *Lifeline Ultra-2* to bring the color back. This also provides the protection that **only** pigment can provide. This is especially important to areas of the home that are exposed to sunlight. Then apply a clear topcoat of *Lifeline Advance Satin* or *Gloss*.

If the color is right but the finish has lost its sheen, a maintenance coat of *Lifeline Advance Satin* or *Gloss* may be all that is required.

Preparation

Check all wood surfaces for signs of deterioration, decay, dirt, mold and mildew and iron tannate stains. You can usually distinguish mold and mildew from iron tannates since mold spots are typically round with well defined edges whereas tannate stains are streaky or blotchy.

If mold is on bare wood or on top of the stain, *Log Wash* should easily remove the discolorations. But the only thing that takes care of iron tannates is *Oxcon*, oxalic acid. If discolorations are under the finish, it is necessary remove the finish to get at the blemishes.

Repair decayed wood using appropriate restoration techniques. Contact Perma-Chink Systems for more information. If you detect signs of excessive moisture (darkened wood, excessive mold and mildew), remove moisture sources and treat the wood with *Shell-Guard RTU* to prevent wood rot.

Be careful to follow all of the preparation and application instructions provided on the label to ensure that you get the optimum performance from your work and your finish. Read all of the instructions before you begin. Remember, consistent preparation is important because your finish highlights wood grain and texture and seals in any blemishes left during the preparation process.

Old Finishes – For finishes that are very old, your first step is to perform an adhesion evaluation in areas that are of most concern. Using some masking tape, apply a couple of inches of tape to the old stain surface. Peel the tape off the wall and look at the adhesive side. If

very little of the old finish is adhered to the tape, then the adhesion is probably adequate to use the old finish as a base for the new coat of *Lifeline*. If a significant amount of the old finish comes off onto the tape, then it is best to remove the old finish before application of the new *Lifeline*.

Old Finish Removal – can be done by a variety of methods. The choice is determined by the condition of the finish, the integrity of the sealant system of the house, the local environment and the preferences of the workers. Methods generally include one or more of the following:

- Power washing
- Sanding or grinding
- Chemical strippers or cleaners
- Corn media blasting

Power washing alone is a commonly used method that works well on houses that have tight sealant systems to keep the water from entering into the walls. It is chemical free, but tends to raise grain and leave loose fibers on the wall surface after completion. These fibers can be removed by light sanding or a quick buffing with an *Osborne* brush.

Sanding or grinding is also a chemical free way to remove old finishes. In most cases, it leaves the house looking best. Its tradeoff is that it is labor intensive and time consuming.

Chemical stripping usually involves the use of a power washer to efficiently remove the stripper and softened finish. We can provide strippers that are relatively friendly to the user and the environment. The tradeoffs here are working with chemicals (including the restoration of proper pH on wood surface before staining) and the aftereffects of using a power washer – see above.

Corn media blasting has become very common. It does a good job of removing finishes without the use of water or chemicals. An advantage of using this method is that after blasting, the surface is dry and accepts a new coat of *Prelude* clear primer very well. The tradeoff for media blasting includes clean-up and disposal of the corn media; and it tends to cause some raising of the grain and pitting of the wood surface. The wood surface can be smoothed out by using the same methods you would use after power washing. We rent our *Blaster Buddys* to anyone who wants to use this method.

Graying Wood – caused by UV exposure can be restored by sanding, or pressure washing along with *Wood ReNew* or *Oxcon*. If the wood is clean but gray, then *Oxcon* is the easiest choice to restore it. If it is also dirty or greasy, then *Wood ReNew* should be used to clean other contaminants and restore natural wood tone.

Mill Glaze – on new wood can seriously degrade the durability of new finishes. Remove mill glaze by sanding, power washing or mill glaze treatments available at your local paint supplier.

Sanding – When sanding or buffing wood, do not use steel wool. Steel wool leaves fine particles of steel on the wood that will cause rust stains under the stain.

Rust Stains – If you have rust stains on bare wood surfaces from bands, nails or other sources, clean them with *Oxcon*. When using *Oxcon*, always treat the entire wall. Avoid spot applications.

Mold and Mildew – If mold and mildew stains are present on the surface of the finish, remove them with *Log Wash*. Never use household bleach since it may harm the finish or damage the wood. On bare wood *Wood ReNew* will remove discolorations due to mold and mildew.

Note: When using *Log Wash*, *Wood ReNew* or any cleaning solution, always start application at the lowest course of logs and work up. Rinse from the top down. This will minimize any “streaking” that may occur during cleaning.

Application Tips for LiFELINE™

- Application of *Shell-Guard*, *Shell-Guard RTU*, *Armor-Guard* or any other borate-based preservative must be done before applying *Lifeline*. Failure to follow the proper application procedures may result in added expense and unnecessary work.

- Application of *Lifeline* can be made with brush or airless sprayer. Use a .015 to .017 orifice on your spray tip. Investing in high-quality brushes help make your work more efficient and professional looking.

- Always perform a color test before the full application, especially if the home has been corn media blasted. Make sure the test is conducted on the same type of wood and surface preparation upon which you will be doing the application. The rougher or more porous the wood surface, the darker the finish color will be. Consider the use of *After Blast* clear primer first to avoid over-absorption of the pigmented stain.

- If you spray *Lifeline*, back-brushing (brushing the wet *Lifeline* after spray application) eliminates runs and works *Lifeline* into the wood grain. Back-brushing can be done with a brush or painter’s pad. Back-brushing is **required** to work the finish into the wood for even color distribution and optimum protection. Brush out all runs immediately and observe proper coverage rates.

- *Lifeline* should **never** be diluted or thinned.

- Apply *Lifeline* when the wood surface temperature is between 40°F and 90°F. Avoid application in direct sunlight. Keep a wet edge to avoid lap marks.



If there is to be a pause in the application, always stop at a natural break point such as a window or corner. Never stop in the middle of a log or course of logs.

- When multiple containers are required to do a job, they should be poured together (boxed) and stirred to ensure color consistency.

- Mix thoroughly before and frequently during use to avoid settling of contents. This is necessary for ALL finishes, including clear topcoats!

- The first coat coverage of all *Lifeline* stains will be 350-450 sq. ft. per gallon on smooth wood. (On rough surfaces, coverage will diminish.) All subsequent coats should be applied at 600-800 sq. ft. per gallon. Observe proper coverage rates and number of coats.

- Thin, even coats provide best results. Do not allow *Lifeline* to build up on wood surfaces.

- **Never** tint or add color to *Lifeline* clear topcoats (*Lifeline Advance Satin* or *Gloss*.)

- A few extra dollars invested in a quality brush can make a significant difference in the look of the finished job as well as the amount of labor needed. Do not take shortcuts!

Application of Lifeline Ultra-2

Lifeline Ultra-2 requires two coats.



Apply the initial coat. **Wait at least two hours depending on temperature and humidity** for the initial coat to dry. Then apply a second coat for the classic *Lifeline* look.



Application of Lifeline Ultra-2 on siding

The application should then be followed up with one or two coats of *Lifeline Advance* clear topcoat.

Application of Lifeline Exterior

Lifeline Exterior requires two coats.

Apply the initial coat. (We highly recommend using *UV Boost* in the initial coat, especially in areas that are subject to high intensity sunlight.) **Wait at least two hours (depending on temperature and humidity)** for the initial coat to dry. Then apply a second coat for the classic *Lifeline* look.

The application should then be followed up with one or two coats of *Lifeline Advance* clear topcoat.

Application of Lifeline Advance Satin Exterior Clear Topcoat

Lifeline Advance Satin is a clear topcoat that provides an extra layer of protection against water, mold and UV, thus extending the life of the stain. Apply one or two coats.

Maintenance coats of *Lifeline Advance*, *Lifeline Exterior* or *Lifeline Ultra-2* can be applied directly over *Lifeline Advance*. At some point in time, it may become necessary to completely remove old finishes and apply new *Lifeline*.

Application of Lifeline Advance Gloss Exterior Clear Topcoat

Lifeline Advance Gloss provides a high gloss finish on wood that has been previously stained with *Lifeline Exterior* or *Lifeline Ultra-2*. (We do not recommend the use of *Lifeline Advance Gloss* over *Pickled White* (EX#150), *Seagull* (EX#152) or any other white or off-white finishes.)

One or two coats of *Lifeline Advance Gloss* are normally sufficient to create a reflective gloss finish on the surface of your logs.

Maintenance coats of *Lifeline Advance Gloss*, *Lifeline Exterior* or *Lifeline Ultra-2* can be applied directly on top of existing *Lifeline Advance*. At some point in time, it may become necessary to completely remove old finishes and apply new *Lifeline*.



Lifeline Advance Gloss on an exterior log wall

***Lifeline Advance Satin or Gloss* exterior clear topcoat is formulated for use over pigmented finishes and is not intended for use over bare wood.**

Application of Lifeline Interior

For optimal performance, apply an initial coat and back-brush into the surface. (We highly recommend using *UV Boost* in the first coat of *Lifeline Interior*.) Wait at least two hours (depending on temperature and humidity) for the initial coat to dry and then apply a second coat or go on to *Acrylic Gloss* or *Satin*.

Thin, even coats provide the best results.

Application of Acrylic Gloss and Acrylic Satin

Use as a quick-drying, high gloss or satin topcoat for finishing sealed or stained wood. Apply to cabinetry, wood trim and molding, furniture and interior logs. *Acrylic Gloss/Satin* spreads easily and evenly.

A sealing coat (clear or color) of *Lifeline Interior* (*UV Boost* is highly recommended) increases coverage for *Acrylic Gloss/Satin*. Apply an initial coat of *Acrylic Gloss* or *Acrylic Satin* to the sealed wood. Brush out runs immediately. If additional coats are desired, allow previous applications to completely dry between coats. For a smoother finish and to assure proper adhesion you may lightly scuff surface between coats with 180 grit or finer sandpaper. Do not use steel wool or a wire brush because residues can cause rust stains in your finish.

Coverage for *Acrylic Gloss/Satin* is approximately 350-450 sq. ft. per gallon on bare wood surfaces and 600-800 sq. ft. per gallon on sealed wood.

Clean Up

Clean up should start as soon as possible. Follow the manufacturer's recommendations when cleaning equipment. Warm soapy water will clean up all wet *Lifeline* products.

Lifeline stains or topcoats that have dried can be softened with alcohol or mineral spirits and then removed with warm water. Always dispose of empty containers in accordance with all federal, state and local regulations. Never use empty containers for storage of food or drinking water.

Storage

Store *Lifeline*, *Acrylic Gloss* and *Acrylic Satin* out of direct sunlight and protect from freezing. Keep unused material in tightly closed containers. We recommend that you dispose of *Lifeline* that has been stored over one year. Contact *Perma-Chink Systems* for more information.



Application of *Acrylic Gloss* finish on interior log wall

Important!

Always perform a color test before the full application, especially if the home has been corn media blasted. (Consider using *AFTER-BLAST* on blasted surfaces.) Make sure the test is conducted on the same type of wood that you will be doing the application on and that the sample has the same preparation as your home.

Normally, the rougher the texture, the deeper the finish color will be.

Color samples of all our stains and finishes are available upon request.

Call any of our stores or send an e-mail to

techservice@permachink.com.

Coverage Rates per Gallon (over smooth wood surface)

Lifeline Ultra-2

350-450 sq.ft., first coat
600-800 sq.ft. second coat

Lifeline Exterior

350-450 sq.ft., first coat
600-800 sq.ft., second coat

Lifeline Advance

800-1000 sq.ft.

Lifeline Interior

350-450- sq.ft., first coat
600-800 sq.ft. second coat

Acrylic Gloss and Satin

350-450 sq.ft. (bare wood)
600-800 sq.ft. (sealed wood)

Prelude

200-400 sq.ft.

Lifeline Endure Deck Finish

150-200 sq.ft., first coat
250-350 sq.ft. second coat



The Log Home Care and
Maintenance Authority

Company Stores

Washington/Western Division

1-800-548-1231

Tennessee/Eastern Division

1-800-548-3554

Sevierville, TN

1-888-441-1116

Minnesota Branch

1-877-244-6548

Colorado Branch

1-800-433-8781

Montana Branch

1-800-479-7090

Stocking Distributors

Cedar Log Lumber of Millersburg Inc.

Michigan

1-855-733-2676

Customers' Experiences with LIFELINE™

“The finish doesn't hide the wood texture but enhances the appearance. A great product that looks great and yet protects the wood from the forces of nature in Minnesota. Thanks again for the great products.”

Richard A. Helms - Minnesota

“All the wood products in our home are protected with *LIFELINE* stains and finishes. We are very proud of the way our logs and trim turned out and we owe it to your products. Again, thanks.”

Jerre and Gretchen Phillips - Kalispell, Montana.

“I've been a stick builder for over thirty years, and just did my first log cabin. *Perma-Chink Systems* seemed to be the best recommendation from several folk, and I thought compatibility could be an issue, so adopted the entire system for the exterior. Needless to say, your products are unique, the instructions poignant and adequate, and the initial results exceptional.

Energy Seal and *Lifeline* products are friendly to work with, friendly to equipment and to the environment. I'm sold.”

V.J. Giles - Forks, Washington

E-mail us your questions:
techservice@permachink.com

visit us online
www.permachink.com

Rev-0725