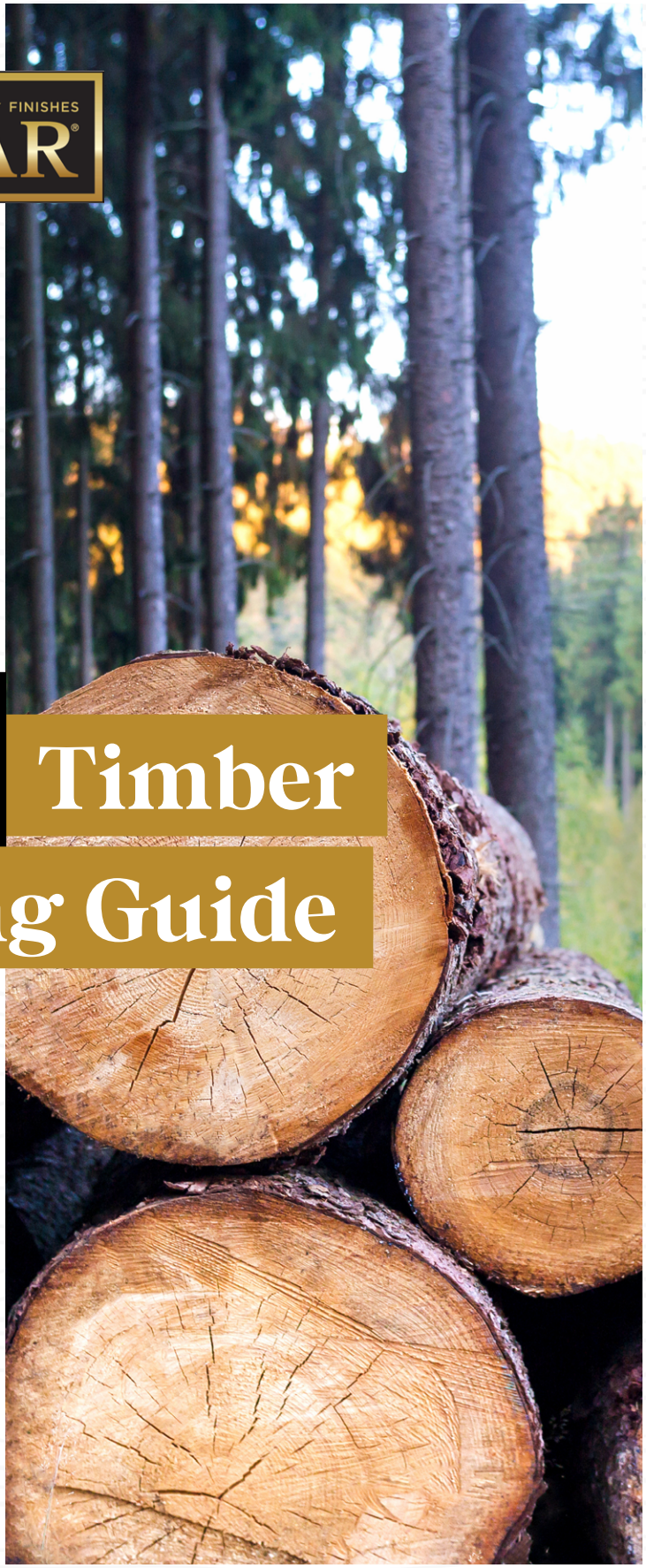

PREMIUM FINISHES ZAR®

Log & Timber Finishing Guide

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Assuring a Successful Finish

Building and maintaining your log and timber build is a lifetime dream for many.

The following pages provide detailed information you need to give your building a look you desire and maintain the appearance through the years.

Also included are steps to quickly rejuvenate an existing log or wood home with a new stain coat. Log and wood homes don't have to be more challenging to care for than conventional homes. You just need to know what to look for and the steps to take to keep your dream alive.

Follow these simple, helpful steps, and maintaining your home will be easy and affordable throughout the years.

Our experienced sales team is here to answer any question you may have and help you through the process of maintenance and upkeep.

Choosing a Stain

The most important part of choosing a stain is first, compatibility, and second performance and color.

1. Compatibility

If your home is already stained, stain compatibility is a huge issue because not all stains are compatible with one another – nor with all sealants. For new construction, you must select a stain that will be compatible with caulking and chinking.

2. Stain Types and Performance

There are three different types of stains available to you. Keep in mind that not all stains are created equal, and how deep a stain penetrates doesn't necessarily equate to better performance. The best value for your dollar may be in a more expensive stain formulated for a specific type of application,i.e., decks, logs, wood siding, etc. With all kinds, good prep is essential to get the maximum longevity.

Surface Stains (ZAR® Platinum Pro Translucent Urethane Finish both Rich Lustre and Low Lustre, fall into this category):

- Excellent adhesion and elasticity
- Good for use on most interior and exterior wood surfaces – handrails and vertical surfaces
- Should not be used on roofing shingles and decks
- Non-fading, extremely durable hard finish
- Little to no penetration into the first layer of closed wood cells

Deep Penetrating Oil Stains (ZAR® Deck & Siding Semi-Transparent Stain Classic Oil Finish falls into this category):

- Good for decks, hand-rails and roofing materials
- Can be used to treat wood previously stained a similar color
- Long-lasting sun protection, water repellent, and color retention
- Mold, mildew, and algae resistant
- Unique blend of oils and finely ground transluscent pigments deeply penetrate wood

3. Finally Choosing a Color

Choosing wood and finish tones will complete the overall look you want to achieve. It's important to request samples and test several different stains and colors to ensure you get the color you desire. Time of day, shading, wood tone, and species are all factors that can make a difference in the stain's finished look.

If a clear finish is desired, use one that is recommended for exterior use and contains UV inhibitors for long-lasting sun protection, such as ZAR® Platinum Pro Clear Coat.

Stick with high quality, UV absorbing finishes and follow these testing procedures to make sure you get it right before you start:

1. Read the stain manufacturer's application instructions.
2. Apply the stain sample to your home in several different areas to ensure you get the color you want. Due to the extreme transparency of most wood stains, the stain's color is influenced by the underlying wood's color.
3. Prep the color testing area. Use the same method that you will use on the entire home.
4. Apply the sample using the same application method you plan to use on the entire project.
5. Allow the sample to dry at least 1 hour for full-color development.
6. If working with a contractor, don't allow the contractor to stain until you have thoroughly discussed and demonstrated the look you want.

Don't stain the entire home before you verify that you're achieving the look you want.

Is Your Wood Ready to Stain?

Before you can dive into applying the stain, it's best to understand the criteria for any long-lasting finish job. Below are the five prerequisites every wood homeowner should know as they start the staining process:

1. Clean Wood

Don't take short cuts here. Bare, clean wood is essential for effective stain application and adhesion. These items will make wood unclean and must be removed before staining: Mill glaze, Dirt, Mold/Mildew, Pollen, Bird droppings, Grease, Oil, Wax, Peeling finishes (old stains, paints, clear coats, etc.). And many others! Refer to the "Prep Time" section for details on how to get your wood clean.

2. Sound Wood

Your wood should be in the best possible condition before staining. It has been proven that bare wood exposed to sunlight for as little as one week can suffer enough damage to the surface wood cells to reduce stain adhesion, leading to premature failure significantly. And your wood is exposed to a lot more than the sun! So what are the leading causes of unsound wood? Weathering, sun, moisture, wind, and insects all contribute to creating unstable wood (loose wood fibers). You'll see your wood go from its bare, light color to an amber yellow (or yellow undertone), to a gray. All weathered wood must be removed before applying finishing products to give those products the best adhesion to the wood and the greatest longevity.

Sunlight & Round Logs

UV rays can damage all wood, but the upper curvature of round logs receives more intense exposure from the sun.

This intense light attacks the wood and anything on it (including the stain) with high-energy, ultraviolet radiation and drastically heats the logs' surface, even on cold winter days. Radical temperature fluctuations cause the logs to contract and expand at a significant and constant rate, stressing and eventually breaking down the wood fibers.

Rot and Insect Infestation

Severe rotting or insect infestations can occur to the point that the home's structural integrity is affected. The rot must be removed, and the cause remedied. Wood or log replacement or re-facing may be necessary. However, most homes need a face-lift. Insect infestations must be eliminated, and the wood inspected for structural integrity before moving forward with finishing.

Deteriorated Older Coatings

Many older wood homes have an old stain, paint, or clear coat on them, and most homeowners don't know what brand or type of stain it is. Unless that old paint or stain is in good shape, it's best to remove it completely. Removing it exposes the sound wood underneath. The new stain adheres much better to the sound wood, and you get greater longevity out of the stain. (In some instances, a new stain can be used over the old. Contact ZAR® to discuss your particular circumstances.) All weathered, UV damaged, and rotted wood should be removed, along with any old stains and paints, to provide you with the optimal surface for future stain adhesion and performance. The "Prep Time" section discusses in-depth how to do this.

3. Warm Wood

Your wood and the air temperature should not be extremely hot or cold at the time of application. If the wood is too hot, the stain may dry before proper penetration has occurred. On the other hand, cold wood can cause products to freeze and prevent adequate penetration. Avoid applying stain or sealants in direct sunlight. Use a surface thermometer to make sure the temperature is within the recommendations made by the product manufacturer.

4. Dry Wood

Wood must be dried to a surface moisture content of 15% or less, and the drier, the better. Use a wood moisture meter to avoid guessing! Too much moisture can cause several issues, such as:

- Peeling and flaking. As the excess moisture is vaporized and tries to escape the wood, it will stress the stain, leading to peeling and flaking.
- Poor adhesion. Any finishing product applied to a moisture-laden surface will have a hard time getting good adhesion from the get-go, obviously affecting protection.
- Mold, mildew, and rot. All of these moisture-induced problems can be expensive to fix and reoccur if their causes are not determined and remedied.

5. Textured Wood

Simply put, the more textured and exterior wood surface, the longer the stain will last. This is especially true on the upper curvature of logs. The texture allows the wood to take on much more stain. This, in turn, provides greater overall protection. Media blasting is the preferred preparation method to achieve this textured surface.

The "Prep Time" section discusses how to prep your wood to get a textured surface in detail.

Prep Time

The walls are in place, and the roof is installed (for new construction), and you now know the prerequisites for a good staining job. It's time to prepare your wood for staining. Substrate preparation is the most critical step in achieving stain longevity. Properly preparing the wood from the get-go will save you both time and money down the road.

Take a Fresh Look at the Front Door

Before you apply any stain to logs or wood, the surface must be clean and free of dust, debris, unsound surface wood, cambium, bark, and mill glaze. Most wood surfaces are coated with "mill glaze" — the hard, smooth film that forms on the wood

surface when leftover tree resins and sugars react to the mechanical and heat energy from the milling process. Because stains can't penetrate this glaze layer, it must be removed to ensure good stain penetration and adhesion. The best overall cleaning methods are:

Hand Sanding

The best tools for this 60- to 80-grit sandpaper. This method doesn't always leave the ideal wood texture for exterior finishing – the wood can be too smooth, impeding stain adhesion – but is better than chemical cleaning, as it is dry prep. It is an excellent method to use for interior staining where a rough texture is unnecessary, and the smoother texture it leaves makes interior cleaning easier.

It's always best to avoid chemicals, if possible, as they can be hard to neutralize and later affect stain adhesion if not wholly removed from the wood. That said, chemicals are sometimes needed to remove old, stubborn stains and/or remove discoloration from tannins, age, and UV damage.

Always start with the least harsh chemical cleaner and move on to something more aggressive only if necessary. It is also essential to test your selected chemical cleaner, no matter which one is on the target wood. This is because it is not possible always to predict what color effects may occur!

Below is a list of the most popular types of chemical cleaners. They are listed in order of most gentle to most aggressive:

1. Sodium Per Carbonate (Oxygen Bleach)
2. Trisodium Phosphate (TSP)
3. Chlorine bleach

Secondary Prep

Don't forget this step! When correctly done, most blasting methods will create at least some "felting" – wood fuzz – that should be removed before applying any finishing products. All of that wood fuzz will eventually fall off. If a stain is applied to that wood fuzz, it will only fall off with the fuzz, leaving a mottled look and leaving those areas exposed to the elements. Also, sometimes blasting can raise the grain slightly and make the wood more coarse than most like it. While the coarse texture is suitable for stain adhesion, it makes for a rougher look and darker stain, both of which are not always aesthetically pleasing. A random orbital sander with 60- or 80-grit sandpaper will work.

Time to Stain and Seal

It's finally time to stain! If you've followed all the steps for proper preparation, you're ready to stain. The latest advancements in stain technology and application techniques allow most anyone to stain a home properly. Keep your dream alive for years to come by following the manufacturer's application guidelines, and follow the simple rules outlined below.

Optimal Conditions

Every stain manufacturer prints the optimum application temperatures and weather conditions on their literature.

It is wise to follow their instructions carefully. Stains should not be applied at extreme temperatures (hot or cold), as previously discussed in "Warm Wood."

It helps to start staining in the morning on the south and west sides of the home while the wood is at its coolest point.

Stain the north and east sides of the home in the hotter parts of the day.
Also, try to avoid applying stain right before or right after extreme weather. For example, staining 24 hours before a major rainstorm will not allow enough time for most stains to dry correctly. This could lead to the stain getting "washed off." If high winds are expected, the stain may dry too quickly, or excessive amounts of sand and dust may stick to the fresh stain.

Staining Your Project

Boxing Stain

There is always a chance of small color differences between lots of stains (like lot variations in carpet or drapes); therefore, it is important to make sure before starting

a job that containers of stain with different lot numbers are “boxed” or interblended before using. This will help ensure uniformity of color even when other lot numbers are used.

Areas of High Moisture Exposure

It is important to take extra care in areas with high moisture exposure. A thorough cleaning and remediation of surface mold and mildew is needed for proper adhesion of the stain. And will aid in continuous growth of mold and mildew under the stain film.

Application Techniques

Pay attention to the number of coats recommended for your stain. Both color and gloss can vary significantly from one coat to the next. Regardless of which stain you have selected, the best staining method is usually to brush, be sure to stick with label instructed coverage rates. If you end up with much leftover stain after taking correct measurements, you probably haven’t applied enough and should brush on another coat. Making sure you use enough stain ensures proper UV protection.

Maintaining the Look

Regular maintenance is the often-forgotten ongoing step in wood home finishing; however, it is one of the most important steps that result in cost savings (and fewer headaches) through the years.

Routine Inspections

Preventative maintenance saves time and money, so it is good practice to inspect your home each spring and fall. This involves walking around your house and paying close attention to the stain's appearance. Take these tools with you when you do your maintenance checks:

- A rough sketch of the home - write notes next to each wall detailing needed maintenance
- A camera - take pictures of areas that need maintenance
- Blue painters tape - mark areas that need care to find them easily later on

You can handle most maintenance issues. If you believe you are not the handy kind, hire a professional to do maintenance you are not comfortable with. The sun-exposed sides of your home – usually south and west walls – will require more frequent maintenance than other parts of the house. Most work, especially caulking and staining, should be done when the wood is very dry and checks are very large. This allows the stain to seep into the openings effectively. The caulk will then be applied at the check's widest point, helping maintain a tight seal and providing for the maximum protection and least amount of follow-up maintenance.

Stain Maintenance

Any time your stain needs to be maintained, be sure to clean the surfaces first. Surface preparation is essential before staining, as well as when maintaining it. Most manufacturers will include stain maintenance recommendations in their literature. Follow their advice and contact them if you have any questions. In most cases, a stain that is still in reasonably good shape (meaning little peeling, flaking, or fading, etc) can be spot prepped and re-applied. With several products, all that's required is a re-application of a topcoat.


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DECK & SIDING
SEMI-TRANSPARENT STAIN
CLASSIC OIL FINISH
SEDONA RED
ZAR
DECK & SIDING
SOLID COLOR COATING
MEDIUM TINT BASE
ZAR
NuDECK
WOOD AND CONCRETE RESTORATIVE COATING
MEDIUM TINT BASE
ZAR
PLATINUM PRO
Translucent
URETHANE FINISH
Chestnut Brown
ZAR
PLATINUM PRO
Translucent
URETHANE FINISH
Barnwood Gray
ZAR
PLATINUM PRO
CLEAR COAT
LOG & TIMBER APPROVED
PRE-PRIMED WOOD AND NON-POROUS SURFACES
LIMITED 5/15 WARRANTY
SATISFACTION GUARANTEED
NON-PRIMED WOOD