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**LOG HOME INSPECTION CHECKLIST**

**EXTERIOR FINISH**

1. Faded on South or West Walls.
2. Cracking, Peeling, or Blistering.
3. Different shade on top of log than bottom of log
4. Gray discoloration from weathering.
5. Total absence of water repellency.
6. Total absence of any finish whatsoever.
7. Presence of Mold/Mildew or lots of dust/dirt.

**LOGS**

1. White Rot, Brown Rot or Dry Rot on log ends.
2. Green moss, algae, or heavy mold growing anywhere.
3. Corners should be probed for softness indication rot.
4. Look for sagging logs; they need replacement if rot exists.
5. Look for upward facing checks that water would collect in.
6. Look for discolored areas caused by repeated wetting.
7. Look for gaps that may allow air or water infiltration.
8. Look for large checks that are insightfully.
9. Look for any areas of rot.
10. Look for sawdust (frass) on floor or logs that could be an indication of tunneling insects.
11. Check for air infiltration around corners and between logs, also around doors and windows.
12. Look for watermarks.
13. Look for bowed or crooked logs.
14. From the inside; look for daylight between logs.

**ROOF/DECK**

1. Check for organic growth or presence of thick mat of leaves or pine needles.
2. Check for discoloration, rot, excessive checking.

## **GROUND LINE**

1. Check for wood touching dirt anywhere around home.
2. Check for firewood stacked against the house.
3. Make sure the ground slopes away from the house.
4. Check for excessive moisture in lower logs courses.
5. Look for termite tunnels under the house, and on foundation.
6. Look for sawdust (frass) from insects that may be in logs.

## **BASEMENT/CRAWL SPACE**

1. Check for standing water and moist wood.
2. Check for termite or beetle holes.
3. Check for signs of wood rot or decay.
4. Make sure all wood in ground contact is pressure treated.

## **OVERALL EXTERIOR**

1. Check gutters and downspouts for leaks and effectiveness.
2. Check for proper roof overhangs and construction.

## **SEALANT SYSTEM**

1. If chinked, check for any cracks, tears, or adhesion loss.
2. Check for faded or hardened caulk.
3. Check for missing or improper sealants or applications.
4. Determine what was, how long it's been there, and how it works.

## **INTERIOR FINISH**

1. Has there ever been any finish applied to the interior?
2. Point out areas around light switches that are dirty due to the oils being deposited on the logs.
3. Advise the customer the benefit of interior finishes. Ease of dusting, keeps smoke and cooking odors from becoming "engrained" in the wood.

### **Log homes and termites;**

Many people erroneously believe that log homes are very susceptible to termite infestation and damage. In reality one could argue that log homes are less susceptible to such damage than stick framed homes – especially if preventative measures are taken during the construction of your log home.

Let's first look at the real reason that termites can cause so much damage to a stick frame home. With a stick frame home they can enter into wall cavities undetected. A termite infestation unseen is a termite infestation untreated. Once in the cavity the termites remain unseen, nibbling, chewing, breeding, and generally ruining your home. Over a 5 to 10 year span you might find many structural supports within an infected home to be significantly damaged and weakened. Often the first sign of such damage is when the homeowner goes to replace a piece of sheet rock during a small remodel – and that small remodel soon turns into a full scale renovation or even a demolition.

With log homes, on the other hand, if termites do end up getting to your wood walls they are immediately visible. Their point of entry will be obvious (a small bore hole and a little pile of sawdust will be clearly visible if a termite enters a log) and therefore homeowners will know to take immediate action! With a stick frame home, exterminators usually have to tent the entire structure and pump gas into the tent in order to kill termites. That is because the termites hide within wall cavities where exterminators cannot easily access or spot treat. But with a log home it is easy for an exterminator to spot treat just an effected area, eliminating or drastically reducing the homeowner's exposure to toxic chemicals. (Who wants to walk into a home that had recently been pumped full of poisonous gas?)

But if a person builds their home properly, then it becomes very unlikely that they will ever experience termite issues in their home – stick frame home or log home. Here are some general tips and hints about building to avoid termite problems...

To begin with it is best to ensure that there is a good distance between dirt and first wood, eight inches at a minimum for most areas, and perhaps more would be wise in termite prone areas. Putting concrete (foundation) between dirt and wood prevents termites from getting to the wood because they have difficulty climbing up the concrete. They are also extremely visible when they climb up concrete, because they have to construct 'shelter tubes' to crawl up.

Do not bury ANY wood near your home during construction. It is important to know that in many jurisdictions developers / builders are allowed to bury a certain percentage of building debris on-site – often right up against the foundation. This could perhaps help explain why termite problems are often experienced in 'tract home' developments. This is an easy variable to control for if you are building your own log home, and substantially reduces the risk of future termite infestation. Buried wood quickly gets wet and soft and turns into an appetizer for termites. When the appetizer is gone, guess where they turn to for the main course? Straight up to your house!

Understand how termites might interact with the style of foundation that your home rests on. For instance, a slab foundation usually puts wood very close to dirt, and thus it is more vulnerable. A poured continuous concrete foundation often develops small cracks through which termites can enter your home (termites can travel through a crack that is 1/32nd of an inch). With a poured continuous foundation one should really also 'ring the home' with a 6-inch layer of barrier sand (known as "Termite sand" which is 10-16 mesh sand). Cinder block foundations are the least desirable in regards to termite protection since they often have large cracks and gaps which termites travel through undetected. Perhaps the most advantageous foundation is pier blocks since they provide a good distance from dirt to first wood and there is no basement through which termites can enter your log home (no cracks for them to travel through).

In termite prone areas, it is also best to always use a 'termite shield' on top of your foundation. A termite shield is a thin piece of sheet metal that goes on top of your foundation under your sill plate. It extends out from your foundation a few inches and is angled down (like a little downward angled wing, sort of, that goes all the way around your foundation). This operates similar to a squirrel baffle. Termites climb up the foundation, encounter the downward angled piece of continuous sheet metal at the top of the foundation and can't find a way to get around it to eat your wood.

The preventative measure of last resort might be to treat the soil around your home during construction. This involves impregnating the soil with an insecticide, so termites cannot approach your home. The reasons that this option is far less desirable than a sheet metal termite shield should be obvious – who wants to have their kids playing in a yard that has poison in the dirt?

Last but not least, a homeowner should conduct periodic visual inspections of their home. Look for telltale signs of termites, and also any other issues that occur in a home such as broken gutters, loose roof shingles, cracked patio bricks, et cetera. Such inspections will ensure that maintenance issues will be addressed promptly, which makes it a lot easier to deal with home upkeep related issues.

So after looking at the termite issue it becomes pretty obvious that log homes are not more susceptible to termites than stick frame homes. In fact they seem to be less susceptible to termite damage. With log homes an owner will immediately see and treat an affected area whereas the owner of a stick framed home will be living in expensive ignorance until the damage is discovered too late. Also, there are many things a homeowner or builder can do to prevent termites from ever invading their home... from foundation selection to metal termite shields and proper disposal of construction waste.

#### Choosing windows for log homes

When building or purchasing a log home it is common for people to not put enough thought into selecting their windows. This can be a big mistake, because selecting the wrong window can have very expensive consequences. With a little knowledge and planning, you can make the best choice -- saving yourself both money and grief.

Typically we recommend that you plan your first log home for at least two years prior to building so that you have time to find good deals on things like doors, windows, tools, etc. If you have storage space available for doors and windows it is a good idea to buy them as you find good deals. Often you can get perfectly good manufacturer seconds that are 1/32" off, or the color is one shade off.

Regardless of when, where or what you buy, here's a rundown of the major window choices you'll need to make:

There are currently four primary styles of windows on the market and all have pros and cons.

1. Wood frames -- Wood framed windows do not conduct heat very well, which is excellent because that means that when you pay to heat your home the heat will stay where you want it – on the inside! Unfortunately wood frames often have issues with swelling / shrinking, warping, and water damage / rot.
2. Clad-wood frames – Clad-wood frames have a regular wood frame that is protected by an exterior layer of a weather resistant material (i.e. vinyl or aluminum). Clad-wood is an excellent product; they last a long time and have a very low thermal conductivity. The downside is that wood clad frames are fairly expensive.
3. Aluminum frames – These have greater durability than plain wood. They also weigh less, are thinner in thickness and thus are easier to work with in some respects. While

aluminum frames are inexpensive and extremely durable, they also tend to transfer heat out of your home at a high rate (unless you get a high quality aluminum frame with an incorporated thermal break).

4. Vinyl clad frames – Vinyl frames are becoming more and more popular. Although quality may vary, the right vinyl frame can be an excellent purchase. They do not conduct heat in the same way that aluminum frames do, and they do not have the maintenance problems of wood frames (they are also a lot less expensive than clad wood frames).

Look for good welded corners to know you're getting a quality frame.

The principle of heat transfer is an important one, because installing a window that transfers heat can be almost like cutting a hole in your wall and just leaving it empty. If you go with a cheap window that transfers heat it will lead to larger heating bills during the cold season. This may cost you more in the long run than simply buying a good quality window to begin with.

So it is best to select the style of window that affords the most heat retention properties that your budget can afford.

There are two key tips that any frugal consumer should be aware of when it comes to buying windows ...

1. Always try to buy a 'stock' window size versus a custom size. Stock sizes are usually a lot less expensive than a custom size. Also, it is easy to find a replacement for a stock sized window when it comes time to replace or update your window. Be aware that stock sizes vary by region, so you will need to ask around to determine what sizes are common where you are building.

2. There is really no reason to avoid buying a quality used window. You can often find excellent used windows for a fraction of what new windows cost. And if you buying a used window of a stock size it will be easy to upgrade at a future date!

That's all for now. Remember that you can save a bundle on windows by shopping around surplus building materials stores, want-ads and even flea markets. Keep your eyes open for the good deals. This will make your "window shopping" easier.

Myth log home settling is a myth created and spread by builders of kit log homes

Okay, we admit that there is such a thing as settling in log homes. The catch is that it only occurs in log homes that were built the wrong way, in our opinion. If you build a log home using the butt-and-pass method, and you build it correctly, there is no settling to be concerned with.

### **The Truth about settling;**

The problem is that kit log cabin builders need some reason to exist. If everyone knew about the butt-and-pass method of log home construction, there would be no more log home kit dealers. Why? Because you can't make a "kit" out of a butt-and-pass log home. It simply is not possible -- a butt-and-pass log home is so strong (when built correctly) that you can't build it in a factory then take it apart and ship it somewhere else to reassemble it. It can't be done.

So the kit builders choose the next best thing: building a type of log home that does come apart in their factory, and then they ship it to John and Martha's property and reassemble it.

What's so bad about that? Settling occurs in any type of log structure that has the ability to come apart, such as Scandinavian Chinkless, Canadian Chinkless and Saddle-notch log homes.

So after the kit builder reassembles John and Martha's new kit home, everything is wonderful. And about a year later when the logs have finished drying, the settling is noticeable. Maybe the stairs are out of alignment. Maybe there is a gap between the log wall and the roof. Maybe a window has shattered from the weight of the logs above it.

These are some of the reasons that "kit" log home builders cut keyways and "settling space" above each window and door. So when the logs shrink and settle, they won't crush the window or door. We've even seen log home kits assembled with a giant screw jack in the basement that allows the homeowner to "lower the roof" over time as the house settles.

The good news is that you can avoid this nightmare and the extra expenses associated with it. All you have to do is build a log home that doesn't come apart and doesn't settle like a bag of potato chips that someone has sat on. In other words, consider building a butt-and-pass log home, and consider building it correctly.

#### **Kiln-drying vs. air-drying logs:**

Seasoning your logs is important when you are building a kit home, because of the settling issue. The more moisture that is in your logs when you build the house, the more settling will occur when the moisture finally gets out.

However, seasoning logs the right way costs a lot of money, especially for a large kit home manufacturer. To do it properly the logs must be out of the sun and rotated the proper way for a year. And they shouldn't be stacked up, they should be spread out evenly on the seasoning rack. So for a kit manufacturer to do this they would practically have to build an airplane hangar to store their timber for the next season. (We don't know about you, but we've never driven past a kit manufacturer on the highway and saw an airplane hangar filled with logs).

So the various kit manufacturers cheat somewhat by coming up with less expensive and faster methods of seasoning the logs that go into their kits. Most of these methods involve drying the logs in a giant kiln or blowing them with hot air in some fashion to accelerate the process. In fact, manufacturers are generally out there advertising what great methods they have for drying their logs in an accelerated fashion. It's a selling point that their logs are kiln dried or baked in an oven because it sounds high-tech and exciting. The average log home kit buyer has no idea even why the logs are supposed to be seasoned before they go into a kit.

The problem is that when you accelerate the process of drying logs, they tend to lose moisture on the outer layers of the log but retain it on the inside of the log. Seasoning a log properly takes months because moisture in the center of the log dries out very slowly.

So here's the million-dollar question: if kiln drying logs is so great, why do they still put keyways and "settling space" over the windows? The answer is because the logs still shrink and settle. Even if you season the logs properly for a year and build a kit-style

home, you will still need to expect some settling (partly because the home will be heated and this will reduce the moisture content of the logs further).

Now for the good news: with a properly-constructed butt-and-pass home, you don't need to season the logs. You don't need to bake them in an oven or kiln. You don't need to stack them on a seasoning rack for even a day.

Because a correctly built butt-and-pass log home doesn't settle the way kit-style homes do, you don't need to worry about the shrinkage of the logs or their moisture content. You don't need to jump through all sorts of hoops (such as keyways, settling space, screw jacks, etc) to build a beautiful, exceptionally strong, exceptionally inexpensive log home.

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