



## Spring NEWSLETTER March 2008

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### What we do

Avalon Log Homes, a division of Avalon Enterprises recognizes that the perfect log home is truly subjective to the homeowner. We proudly offer the industry's most comprehensive portfolio of log home packages to choose from. We specialize in the design and manufacturing of custom milled, log sided, timber frame, and artfully handcrafted log homes. Avalon offers clients an unparalleled selection of log homes to choose from. With over 100 standard designs, multiple profiles, styles and sizes, and numerous complimentary services, Avalon homeowners are assured that their log home will be everything they've always dreamed it would be—right down to the smallest detail. A **milled log home** is the product of an automated manufacturing process that converts raw logs into a precision milled product of exacting dimensions, profiles and corner styles. Avalon's milled log homes feature interlocking tongue & groove or saddle notch logs which allows Avalon logs to fit snugly when stacked. A **handcrafted log home** represents the time-honored art of logsmithing. Avalon's handcrafted log

### Visit Our Website

Many people have found a great resource at our website: <http://www.avalonloghomes.com>. At Avalon Enterprises, we now specialize in 4 divisions: Avalon Log Homes, Avalon Custom Homes, Avalon Design Services, and Avalon Construction Management. This gives us the opportunity to help you with your building needs in all facets of the construction to help you with the decisions you need to consider in planning and building your log home. We suggest you look at our different floor plans to find what comes closest to your

### INSIDE THIS ISSUE

What we do	1
Visit our website	1
Thermal Mass Benefits	2
What are Log Grades	2
How Logs are graded	3
Company info	3

homes are constructed using many of the same practices as those employed by early American and European logsmiths centuries ago. Using mostly hand tools, crews cut and shape logs from carefully selected trees so that each log fits perfectly on top of each other. A **timber frame** home is carefully crafted with precise automated equipment to create beautiful beams and arches which become the superstructure of the home. A **log sided** home, unlike milled or handcrafted log homes, is the product of combining half or quarter log siding with conventional stud framing and insulation to create the look and feel of a log home without using full logs. Avalon Enterprises also provides **construction management services** in some states. Contact us for details!

needs. Though we pride ourselves on having the finest standard plans in the industry, we realize that your dream home is just that- the home of your dreams (not ours). We can work with any floor plan. Because all of our homes are fully customized, Avalon's expert design team are at your service to ensure that your log home meets each of your exacting requirements. We can start with one of our plans or yours. We will provide you with Free estimates as part of our service to you.

### Thermal Mass Benefits of Log Homes Recognized

Thermal mass is a material's capacity to absorb, store and slowly release heat over time. Logs do this well. The Log Homes Council (LHC) set out to prove two things. First, logs have thermal mass because of their cellular structure, bulk and thickness. Second, this thermal mass provides significant energy-saving benefits because it releases heat back into the house when temperatures drop. NAHB's Research Center conducted the second study for the LHC in 1991. It showed the thermal mass of log walls does significantly reduce energy use for heating in cold climates. Results concluded that thermal mass performance of log walls is an advantage to log home owners.

### WHAT ARE THE GRADES AND WHAT DO THEY MEAN ?

Timber Products Inspection is a national grading agency which has established a grading program. Their program establishes the grade restrictions for each grade for wall logs. The grades are, from highest to lowest: Premium, Select, Rustic, Wall Log 40, Wall Log 30 and Wall Log 27.

"Slope of Grain" is one of the restrictions used in determining grades. Slope of Grain is a measure of the degree of twist evident in the log. This is measured by the amount of grain twist in a given distance down the length of the log. For example, 1 in 12, means the grain moved away from the axis of the log one inch in a distance of twelve inches. Using this factor as an example of the progressive relaxation of the restriction you will find the following pattern. In the Premium grade the restriction for Slope of Grain is 1 in 12; in the Select grade it is 1 in 10; in the Rustic grade it is 1 in 8; in the Wall Log 40 grade it is 1 in 6; in the Wall Log 30 grade it is 1 in 5.

"The lower the moisture content of the house log, the drier and lighter the wood will be."



We did not invent the log home, but we perfected it!

Since Slope of Grain is measuring the twist that developed in the log while it was alive and growing, it is, in effect, predicting the risk that the log will "untwist" and the degree to which it will untwist. A Slope of Grain of 1 in 12 indicates a very low risk the log will untwist and if it does the movement will be very minimal. On the other hand, a Slope of Grain of 1 in 5 indicates a likeliness to untwist and to move considerably while doing so. If this log is in the middle of your living room wall and it moves significantly it is likely something unwanted will occur, such as a gap in the wall allowing air and water to penetrate.

In each of the restrictions affecting the grade of a log you will find a similar progressive relaxation of the restriction, thus allowing greater risk of potential unwanted results or performance of the log over time.

Although the grades and restrictions are technical and quantitative their importance to the homeowner are their usefulness in assessing the risk of unwanted results or performance. Simply stated the greater the restriction of any defect allowed in a log the greater the probability that the log will perform well, without unwanted results, over a long period of time. The lower the restriction, the greater the probability the log will develop unwanted results and poor performance over time.

Using graded logs not only assures you that you are building "legally" anywhere in the US, it gives you the knowledge of the likelihood of the performance of your logs over time. And, it gives you the ability to determine the value you are getting—the price versus quality comparison.

## How Logs are Graded

Logs are graded by visual inspection. All of the factors, such as knots, slope of grain, checks and splits, decay, holes, etc. that affect the strength of a log are taken into consideration when assigning the grade. These strength altering factors, or "defects," found during visual inspection result in the assigned grade.

The list of defects include the following: burl, checks, compression wood, decay, edge, holes, knots, manufacturing imperfections, pitch, pitch streak, pockets, shake, slope of grain, splits, trim, wane, warp, and others.

Each grade has an "allowed design stress value," which is used by engineers and architects to choose the appropriate species, size and grade of log for the application being considered. It is also used by local code officials to assure them that the logs meet the building code requirements.



■ AVALON LOG HOMES ■

### CONTACT US

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Log Home being constructed in Arizona



Handcrafted Home being constructed in Montana