Lumber Shrinkage

By Tim Carter
©1993-2008 Tim Carter

If you have never built a new home before, you may be in for a surprise 3 to 6 months after you move in. If your house was built during a wet time of year, the surprise you will get will be even bigger. Homes that are built with wood almost always develop cracks in any number of places that all too often are blamed on foundation settlement. The truth of the matter is the house is indeed settling down, but the foundation is not moving.

There is a really good chance your home is going to be built with a considerable amount of lumber. If your home is two stories and the builder uses regular dimensional lumber such as traditional 2 x 10's or 2 x 12's, this dimensional lumber is going to lose moisture which translates to an actual change in size.

As the lumber gives up this moisture, the change in size can be dramatic. But it is important to know that a standard piece of lumber does not shrink the same amount along all of its dimensions. The greatest amount of shrinkage occurs across the face of the grain.

To help visualize this, let's talk about a standard 2x4 that is 8 feet long the moment it is cut at the mill. For sake of discussion, lets assume the piece of lumber will be exactly 96 inches long, 1.5 inches thick and 3.5 inches wide. One the 2x4 has been in your house for 6 months and had a chance to acclimate and dry out if it was wet, it will still be nearly 96 inches long. There is very little shrinkage along the length of the lumber.

Basement Specialists
Waterproof Cracks In Walls/Floors Or Foundation Repairs. Call Today!
www.ValueDry.com

Cracked/Bowed foundation?
Ask a JES Engineer! Offering Free Estimates in MD VA DC PA NJ
www.E-Foundationrepairs.com

Foundation Waterproofing
DE - Certified Basement Repair Get 20% Off Until Feb. 5th!
www.WaterProofingDelaware.com

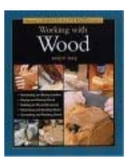
The thickness of the 2x4 will change slightly, but not by much. But the width of the 2x4 will experience the greatest shrinkage. It may only measure 3 and 3/8 inches in width. Imagine how much shrinkage might happen with a large 2 x 12?

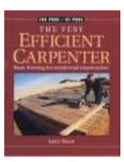
This shrinkage happened at my own home and it was dramatic. I built a three story Queen Anne Victorian home and installed the tin chimney flashing myself. The flashing was 26 feet above the top of the foundation. When I cut the counter flashing that comes down the face of the brick and stops at the roof, I left a 1/4 inch gap. One year later that gap was 2 inches! I can tell you for a fact the solid masonry chimney did not rise up out of the ground.

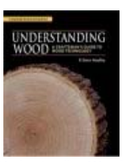
So how does this relate to your new home building experience? If you want to minimize cracks in ceramic tile, cracks between back splashes and countertops, maddening cracks in drywall, squeaks in flooring and staircases, etc., then you might see if there is some way you can slow down the construction process once your home is under roof and weather tight on the outside.

I realize this goes against everything you, your builder and your lender want to happen, but the longer you let the house dry before the finishing treatments are applied, the better the long term fit will be. Builders want to finish a house quickly so they can move on to another job. You may have a deadline to move from your existing home. Construction loan interest keeps adding up. All of these things are reality, but so is lumber shrinkage.

You can minimize some of this shrinkage by using different materials - ones that are less susceptible to shrinkage. Engineered wood I joists that resemble steel I beams, floor trusses and even metal floor joists are very stable. Talk with your builder to see if these are viable options for your new home.


Taunton's Complete Illustrated Guide...
Andy Rae
Best Price $11.35
or Buy New $26.37
Buy from amazon.com
Privacy Information


The Very Efficient Carpenter
Larry Haun
Best Price $8.98
or Buy New $15.61
Buy from amazon.com
Privacy Information


Understanding Wood
R. Bruce Hoadley
Best Price $23.32
or Buy New $26.37
Buy from amazon.com
Privacy Information