

## DRY LUMBER, AN ARCHITECT'S DILEMMA

By William Van Fleet, A.I.A. Architect, 350 E St., Eureka

GENTLEMEN, I have problems, in fact, as the title indicates I'm on the horns of a dilemma. It stems from wanting and needing dry lumber and not being able to get it. I welcome the opportunity to bring my difficulties before a group that should be sympathetic to problems dealing with a shortage of dry lumber. I say my problems but actually they are the problems of the entire building industry here. Talking to men with your expert knowledge of wood seasoning, the mechanics of drying wood, and the economics of the wood drying business, I hope to spark some interest in a bad local situation as far as dry lumber is concerned.

In every building I design, dry lumber is easy to specify, but hard to get. Every effort to include it in our buildings has three strikes against it before it even gets started. 1. Cost 2. Availability 3. Keeping it dry.

1. COST: In these times of rising costs, the owner frequently balks at paying an extra premium for kiln dry lumber and it takes a selling job to convince him that this higher initial cost more than offsets trouble later on.

2. AVAILABILITY: In spite of having several kilns in the area, we frequently get complaints from the contractor that the kiln dried lumber we specified is unavailable. This does not apply so much to the 1" siding and interior finish material as 2" and larger. Two inch Tongue and groove roof decking is very difficult and 2x8's, 4x10's, 4x12's, and larger is almost impossible.

3. KEEPING IT DRY AFTER WE GET IT: Our climate is wonderful for producing wood but very poor for keeping it dry. A summer fog can be as damaging as a winter or spring rain and the builders have to take special care of dry material. I have noticed two companies here have started wrapping and packaging their siding material. This is a fine idea. The wood is not only protected from absorbing moisture from the air but from nicks and marks as well.

In spite of those three strikes, Cost, Availability, and Inability to keep it dry. I feel dry lumber is worth the effort because I know what wet lumber means.

Wet lumber means everything from plaster cracks to sagging doors. It means siding failures, splitting and cupping, weakening of timbers. It means dry rot and decay, mildew and blistering paint. More painters and paint manufacturers have been wrongly accused of paint failures when the real culprit all along was wet lumber. Wet lumber means ugly gaps opening up in exposed roof sheathing. On one job of mine the tongue and groove ceiling opened up so much, the stress broke the roofing felts and the asphalt came thru. If you think a client gets upset when the roof leaks water, you should see him when tar bounces off his head. Esthetics and good planning are lost in the shuffle. These are but a few examples of what wet lumber means to me and why I do my best to avoid it.

They are also symptoms of a commons disease in this area called Green

Chain-itus caused by an abundant supply of lumber fresh from the Green Chain to You.

The building industry has for it's own protection developed construction techniques using green lumber that try to overcome this handicap. The simplest one is merely to delay closing in the building for as long a period as possible. After the house is sheathed, roofed, glazed, doors hung on outside, the plumbing, wiring, and heating can go in. Then the exterior siding can go on and any other work that doesn't enclose framing. The heating system should be turned on for about a week before any interior finish goes on. This will give time for the frame to be examined and any loose joints or distorted studs can be corrected.

This delaying tactic is almost tailor made for the Do-It-Yourselfer who by the very nature of his operation should have dry studs by the time he gets them covered. In fact if there are some of these in the audience who are being pestered by wives to get some strategic walls covered before Mother comes next week, you may tell her with an authoritative air that "Sorry Dear, but all the experts say we should leave our walls uncovered for at least another month.

Another technique is to frame the building in such a way as to minimize the effects of shrinkage. As we all know most shrinkage takes place in the width and depth of the member rather than in the length. This means that we should have as few pieces as possible laid on top of the girder, they head into it and rest on a ledger strip or joist hangers. The posts under the girders rest on metal post caps instead of wood pier caps. All this tends to reduce the total shrinkage.

Even with all these measures to counteract the handicap of wet lumber, the contractors are fighting a losing battle. With the speed up in building techniques, this delaying action will no longer be possible. A local contractor already puts up Pre-Fab houses in one month. Unless the framing lumber is fairly dry, there is going to be trouble ahead. He needs well seasoned material for studs and joints, and he needs it cheap.

Another development that has made the problem of seasoned lumber even worse is the recent popularity of open beam construction. This approach is standard practice in my office for homes, schools, churches, and office buildings. Here the framing is all exposed; posts, beams, rafters, and roof sheathing. If the sheathing is not dry it will have its tongue hanging out within a year. Posts and beams that have been installed with a moisture content of 19% will check and crack when room conditions bring them down to 10% or 12%.

Our biggest problem therefore is in getting material two inches and over that is dry or well seasoned. I know that a large timber is a very ticklish thing to dry, and it takes up a lot of time and valuable space in a dry kiln. I also know that it doesn't make sense economically to expect a kiln operator to fill his kiln with framing lumber if he could keep it filled with the upper grades that bring several times more per thousand. But that is our problem. I have some ideas of my own from a layman's viewpoint, as far as the drying business goes, as to how this problem might be approached. These ideas look good to me on the outside looking in, but

might seem rather naive to you. At any rate, I'll throw them in for your own amusement.

1. Dry lumber, and this includes some of the lower grades in stud and joist dimensions, is being shipped back East. It is dried prior to shipping to save freight costs. Why couldn't some of this be made available to the local market.

2. Carry the packaging idea one step further. Wrap 2" T&G for exposed ceiling installations. This will insure dry material until it is in place and eliminate that amusing if distracting sight of seeing large muddy footprints on your nice new ceiling.

3. There must be some way of rescuing all the heat that goes up in smoke every day from every burner at every mill. Perhaps it could be piped to a drying shed. At least it might be a way of speeding up the air dry seasoning process, and a means of storing material that has already been dried.

This last one might seem rather far fetched but I'm merely trying to stimulate some ideas from you gentlemen that aren't so much so, in an effort to solve a rather knotty local problem. Even though they are local and perhaps unimportant in the overall picture economically, they do reflect a struggle with wood that is universal due to it's dimensional instability. This characteristic to shrink on drying has caused the development of other building materials that don't have these problems. For example, the Glue Laminated Beam, built up of small pieces into a member that is stronger and more dependable than a natural timber of the same size. Another is two inch and three inch fiberboard tongue and grooved sheathing prefinished ready for installation. It has no trouble with joints opening up and does not have to be painted. Also take the sheet siding materials. Every day I pick up a magazine I see another siding material; cement asbestos, porcelain enamel on fiberglass, pre-finished plyboards of all kinds. Then there are the aluminum panels, all insulated, baked enamel both sides, ready to slip into place without further working. I am not bringing this up to make you feel bad but to remind you that this is your competition. All of these will continue to peck away at your market and other products will be developed if dry lumber continues to be hard to get.

I don't thing any of these man-made materials will ever replace wood, which, if treated properly, can't be excelled for it's beauty, warmth, and long lasting qualities.

In conclusion, I believe the biggest boon to the building industry here is an ample supply of dry lumber, particularly framing lumber, that everyone can afford — to take the place of certified-green-chain-dry that is so plentiful.

This has been more of an attempt to present problems rather than to offer solutions. If I have stimulated any interest in the lack of an adequate supply of dry lumber in this area I will feel well paid for my efforts today. The need is there, the market is there, it only needs to be recognized and something done about it, and you are the men that can start the ball rolling.