

CONTROLLING END SPLITS AS A PROFIT CENTER

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End checking - the splitting and cracking caused by the too rapid and uneven drying at the ends of boards - results in losses of material and, therefore, dollars. The price is paid by the lumber mills and lumber drying operations in the form of greater trim loss and less saleable lumber. The price is paid by the user in higher costs for raw material and/or lower yield from the lumber he buys. The price is paid by everyone if we needlessly waste what is becoming an increasingly expensive commodity, one whose supply, in this country, is being restricted by ignorant and politicized governmental policies.

The good news is: end checking is one of the easiest drying losses to control, it is inexpensive to control, and the costs of preventing end checking are returned ten, twenty ... even a hundredfold. Preventing end splits is a way - all too frequently overlooked - to increase profitability, by thousands of dollars.

Currently, the most effective and efficient way to prevent end checking is by sealing the ends of the boards. You can pick any type of sealer you want. The most widely used today are the heavy, water-based wax emulsion sealers: they are generally inexpensive, non-hazardous, and relatively easy to use, apply, and clean up.

However, many operations continue to view end sealing as an unnecessary expense. They view end splits as someone else's problem.

- (1) At the sawmill: "We ship it out green, as soon as it's sawn, so we don't have a problem with end splits."
- (2) At the dry kilns: "Any seasoning checks that occur during air drying or kiln drying close up during conditioning, so we don't have a problem with end splits.", or, "You're gonna get end splits and trim loss no matter what you do, so why bother spending money on paint."

The final user will be the one who pays the biggest price, in one or both of two ways. First, trim losses due to unnecessary severe end checking is a cost of producing the lumber, and the final user pays that cost, without a receiving a corresponding benefit. Second, the seasoning checks that "close up" during conditioning are still there at the ends of the boards. When the user goes to process those boards, cutting up dimension and other products, he is not happy to find that the last five, eight, or fifteen inches of the board is unsound or falls into pieces when cut up - that's one or two dollars a foot for material he paid for and can't use.

Let's say you're producing kiln dried pine or Doug-fir. You're looking at a price tag of \$1,000, \$2,000, or more for every thousand board feet you sell. Let's use the lower price of \$1,000 per MBF. You produce five million feet per month. End sealing that lumber will cost you as much as \$2.00 per MBF, so your end sealing costs can run \$10,000, if you seal all five million feet. What do you get back? If you save just one percent, at \$1.00 per foot, that's \$50,000. If it's only

one-half percent, that's \$25,000. Would you consider a course of action that would increase your lumber's value, net, by \$15,000 each month? If the price of the lumber is \$2,000 or more per thousand, a half percent savings means a \$40,000 net gain per month. At \$2.00 a foot, fractional percentage savings still mean big dollars.

Interestingly, these small percentage savings do not even take into account the reality of having to trim back to the next foot or two foot increment, not just the length of the end check. One operation, drying three million feet a month, was losing over 100,000 feet to end splits - more during the worst of the hot, dry weather. At \$1.00 a foot, that's over \$100,000 of trim loss that could be reduced, drastically, by \$6,000 worth of end sealer.

How do we decide what lumber will profit most from protection? That will depend on both the initial value of and the ultimate use for the product. While we are prone to take the best care of the highest priced, most valuable lumber, the lower grades can benefit from end sealing as well. One hardwood operation was not end coating their two and three common grade lumber. All in all, they experienced end checks of four to twenty-four inches in nearly every board. However, they were taking this low grade lumber, defecting it, and cutting out clear furniture parts that sold for \$2.50 - \$3.00 per board foot. Coating each bundle cost \$2.00. The increase of fifteen to twenty additional furniture parts, at \$3.00 each, gave them a 2,000% return on their end sealing cost. Controlling their end splits became an important profit center for their operation, and conserved the resource as well.

Hopefully, many of you here do protect your lumber against unnecessary end checking losses. However, as noted previously, all too many operations do nothing. What is obvious, once you consider it, is that the best place to protect your lumber against end checking losses is at the mill, as soon after sawing as possible. There is equipment that will end coat boards right on the green chain, and other equipment that automatically coats packages on a conveyor. More modestly priced power equipment has yard people end coating each bundle before the fork lift takes it away.

However it's done, the key is to end seal the lumber quickly after sawing, and to seal it heavily and completely. How crucial is this? In terms of dollars, it can be very crucial. Take the case of a midwestern furniture factory, drying their own stock for production. For years they had end sealed their lumber as soon as it arrived in their yard. They had studied their production from sealed and unsealed lumber, and they found a significant and profitable yield increase by using end sealed lumber - less waste, more furniture parts. This shows that lumber sealed after a modest delay can still benefit from end coating.

Now they have taken it one step further. They studied the difference between their production from lumber sealed when it arrived in their yard and lumber sealed at the sawmill. Again, they found an additional significant increase in yield if their lumber was sealed at the mill. This led them to educate their supplying mills about end sealing and it's benefits, and to offer an additional \$5.00 to \$10.00 per MBF (depending on species and thickness) to the mills for effectively end sealed lumber. The result is profitable for everyone: the mills have a profit center in their green lumber sales (\$2.00 per MBF cost vs. \$5.00 - \$10.00 per MBF payment for their efforts) and the furniture company increases their yield by several times the \$10.00 per MBF cost: if you go through fifteen million feet of lumber and pick up a savings of just \$10.00 per thousand, that's \$15,000 that drops down to your bottom line.

You are certainly familiar with export orders, green or kiln dried, which specify wax coating on the ends, or covering the top and ends with kraft paper. They aren't interested in how pretty the lumber looks when it arrives in port. Your customers know how much more valuable the lumber is to them if the ends are well protected against unnecessary drying splits.

If all these savings and/or increased profitability come out of reducing end splits, why doesn't everyone do it? Part of the problem is habit, or inertia. Going back years and years, wood was plentiful and cheap, and we threw away as much of each tree as we used. There are still individuals and companies who have not decided to wring every possible foot of lumber out of their production - "acceptable" production losses are too high in their case.

Another problem is the relative perception of the savings involved. When does increased profitability become high enough to move you to action? If you could save \$100 each week, is the \$5,000 per year profit attractive in a \$10,000,000 company? In a \$100,000,000 company? What about savings of \$1,000 a week? Two thousand five hundred dollars per week? When is it worth the trouble to pick up a quarter or a dollar that's laying on the ground? The answer should be that any level of increased productivity and profitability is attractive, whether it's pennies or dollars.

A third attitude is that end sealing is too low-tech. In these days of computer set works, thin kerf gang rips, and laser lights, there's nothing glamorous (or expensive) about end sealing lumber to prevent end splits. Many are looking for high-tech, high-priced answers to achieve productivity gains. Well, we have already said that end checking is one of the easiest drying losses to control. You don't need to install a quarter million dollar space station toilet if an outhouse will do the job; it may not be fancy, but it works. Effectiveness, not high cost or complexity, should determine whether or not you use a tool.

Protecting your lumber against end checking is not only low cost and ultimately profitable, but it is the logical thing to do. You need to conserve the raw material that you are processing and deliver every possible inch of useable lumber from it. By end sealing to prevent unnecessary and costly end splits, you can do that, and increase your profitability at the same time.