

How to Prevent Cracks in Your Large Timbers

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Easy answer: you can't...

That's not entirely true. You could dry the timbers in a vacuum kiln and definitely not use them outside and keep them away from direct sunlight. Probably a good idea to speak in low, soothing tones around those timbers too.

I joke, but the reality is that **these cracks or checks are just the nature of wood.** Checking can be controlled in "regular" sized 4/4 through 8/4 or even 10/4 lumber, because this thinner stuff is easier to dry. But when you get into thicker pieces like 12/4 and **up into 6×6** and 12×12 timbers, you are looking at a sizable cross section of the original log. This means it will behave more like a log in the yard than a board.



Freshly sawn timber showing the moist and gooey center

Now after the timber has dried and the outer layers have split to allow shrinkage as it dries

With so much insulation around the center of the timber, it will retain moisture much longer than the outer layers. As the outer layers dry and shrink, they are halted by the moist inner layer, and they have no recourse but to **crack. There is just no way to avoid these checks, and if you aren't seeing them, then there is probably a much bigger issue to be concerned with - like a rotten core.**

Moreover, different woods will check differently. The denser, heavy woods like Ipe can check more readily than something like Douglas Fir. With higher density there is less empty space for the wood fibers to compress into. Checks will open readily,

but usually in Ipe's case, the wood is stable enough that the checks will be pretty small. There may be more of them, but they will be small and usually only skin deep. On a less dense species like Fir, it is common to see deep checks that are quite wide and open like an explosive crack, because the timber has been shrinking and compressing into the empty space and building up pressure until the fibers give way.

✓ The key thing to remember is that these checks do not affect the structural integrity of a timber. In fact, it usually makes it stronger, because it releases the tension built up internally.

With checks inevitable in timbers like this, some people will actually cut a saw kerf into the timber as a release point, and it dramatically minimizes or even eliminates checks from the other surfaces. Yes, you will have one face with a saw kerf in it, but usually there is a way to orient the timber so that kerf isn't seen. This technique is an ancient one that goes back to Japanese Temple Carpenters and guess what? Wood moves the same way today as it did in 600 BC!



The problem with this kerfing approach is that it requires the kerf to be cut *before* the timber begins to dry. Most of us don't get our hands on the material this early in the process, and many times when you work with a large timber, it has already been kiln dried or air dried on a yard somewhere for a long time. Even here at McIlvain, we seal the ends of our timbers and store them in the shade, which goes a long way towards preventing the checking.



It is usually not until the timber is installed on a deck or home that it starts to check. Direct sunlight on a summer day can cause a timber to check dramatically, and it's common to be sitting on your deck and actually hear the popping and cracking of the posts. Timber frame home owners report loud cracks in their house several years after they moved into the home. This poses problems to a lot of builders and contractors as the timbers can look great when they leave the job site and only begin checking after the fact, resulting in an unhappy customer thinking that they have defective wood. Most of the builders I know who deal with timbers are quick to educate their customers about this movement, and these builders help their

customers understand that checking does not make the timber structurally unsound.

One final thing to consider is that these timbers will never stop moving. Especially the ones used outside. In fact, the checks will open and close as the outer layers of the timber pick up and shed moisture. It is for this reason that the checks should NOT be filled in with epoxy or something similar. Look at it this way: checking only adds character and uniqueness to your deck or home, and why not embrace it.

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