Rigid glue lines, cracking veneer

by Gene Wengert
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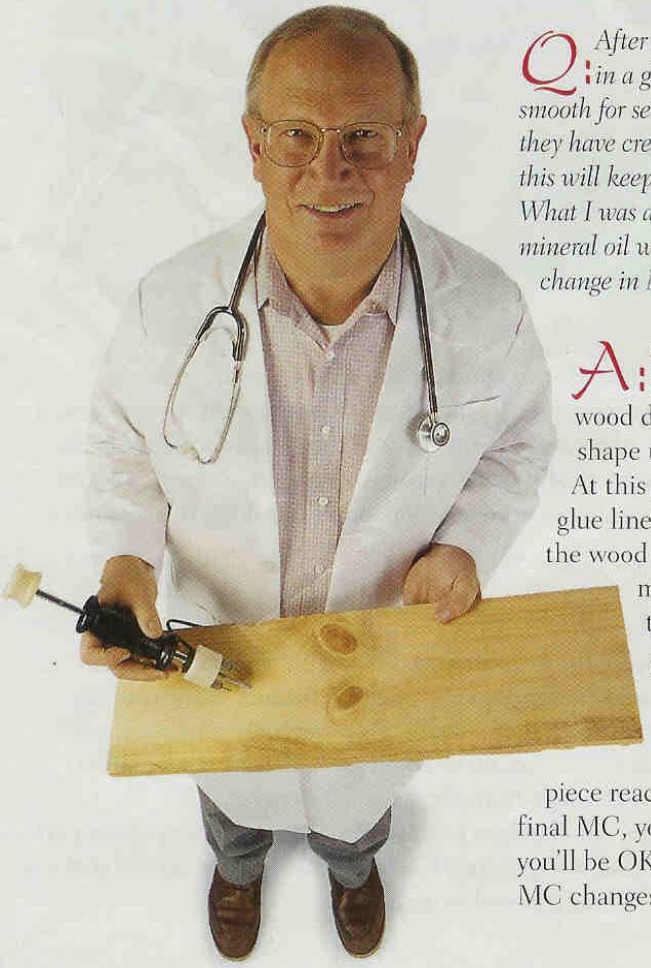

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Q: *After sanding the glue lines flush in a glued-up panel, they were smooth for several weeks. However, now they have crept up slightly. I can't imagine this will keep happening, do you think? What I was also wondering is how helpful mineral oil will be in minimizing the change in MC. I appreciate your advice.*

A: Apparently, the wood is drying and shrinking, as wood does not change its size or shape unless the MC changes. At this point, I believe that the glue lines are quite rigid, so that as the wood around them shrinks a bit, most of this wood is free to shrink. However, the glue lines are too rigid to shrink, so they will appear to stick up above the surface. Once the entire piece reaches its equilibrium and final MC, you can sand it smooth and you'll be OK (unless you have large MC changes after sanding).

Q: *We have a wood manufacturing plant that has limited environmental controls. We use misters to add moisture to the air, but still occasionally have significant cracking and checking in the veneer during our processing. The cracks show up most often after the staining and finishing processes. We were told by a former veneer buyer that our humidity in our plant should be 45 to 50 percent RH. Is this correct? Also, our veneer ranges from 6 to 10 percent MC. We get a weekly read out on our humidity for a 50,000-square-foot building and the values range anywhere from 38 to 45 percent currently, but in the winter we kept it around 45 to 50 percent.*

We have some significant cracking issues now and I'm racking my brain on how to best define how our environment and processes contribute to the cracking. Please advise.

A: We know that checks don't open or develop unless the veneer is drying. So, we need to look for a drying environment; that is, a condition where the air is drier than the MC of the wood. Therefore, the key is the RH, not temperature itself. We want to use an RH in the plant that's close to the conditions that the veneer will be exposed to in use.

The average RH is about 37 percent RH (which is equal to 7 percent MC; hence, we call this 7 percent EMC air) in use for most wood products in the United States. However, because shrinkage is almost always more of a problem than slight swelling, often we target a little lower humidity in the plant; that is, target 30 to 35 percent RH (6 percent EMC) in the wintertime. (Of course, in the summer, unless you have an a/c, you