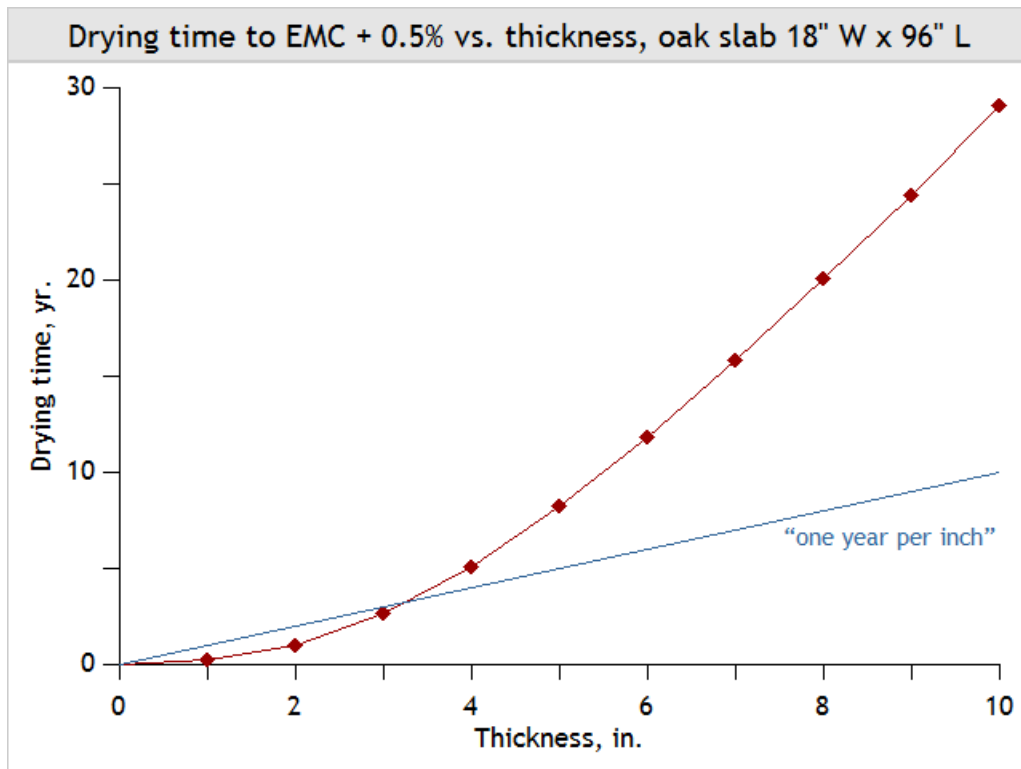


Drying time vs. thickness

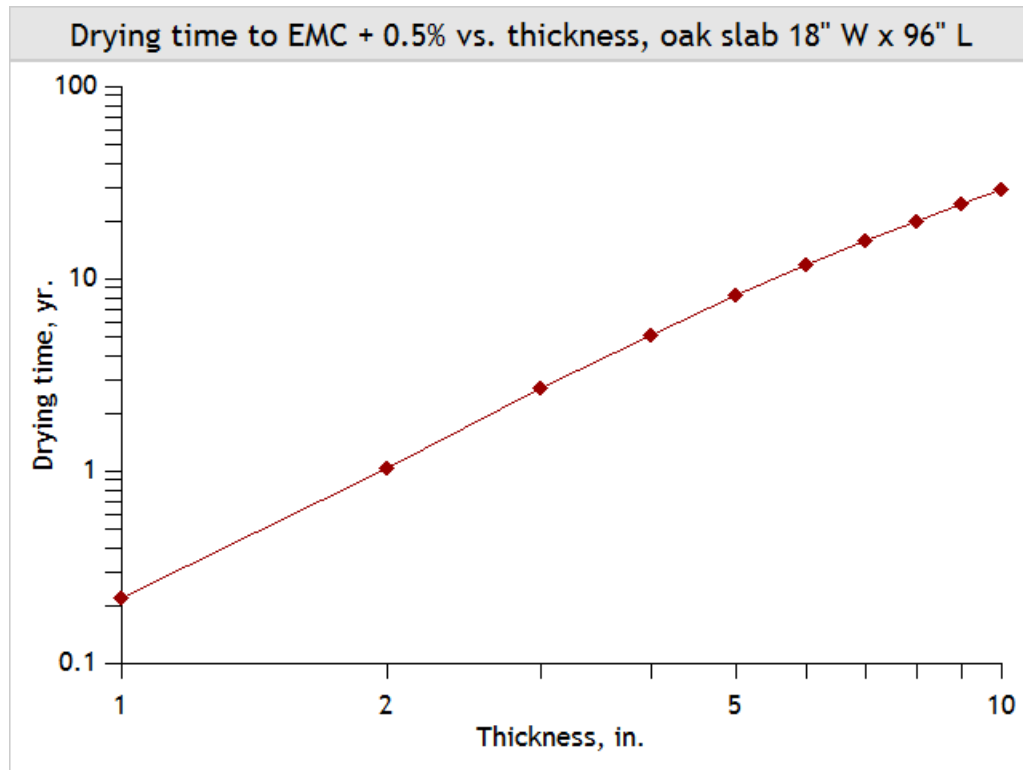
In order to determine the drying time vs. thickness behavior using the diffusion model contained in [diffusion.pro](#), I computed the time-to-EMC + 0.5% for ten simulations, using slabs based on the geometry given in [oak_nohole_wax010.geo](#), but with the thickness varying from 1 inch to 10 inches.

The results of the simulation are shown below:



As can be seen, the computed drying time is not at all linear (it is in fact approximately quadratic). The “one year per inch” rule of thumb overestimates the required drying time for thin boards, and underestimates it for thick ones. The exact crossover point depends on material properties and geometry.

If we plot the same data on a log-log plot, we get:



This is just what we'd expect from theory: The drying time varies approximately quadratically vs. thickness at low thicknesses, and then starts to taper off a bit as the thickness increases. The reason for the decrease in slope with thickness is that as the board gets thicker, the edges become less and less negligible; by the time the board is 10" thick, the "edges" are hardly edges any more; they're really just two additional faces.