

Hardwood Floors, nailing and shrinkage

Last Updated: Saturday, April 23rd, 2011, Created: Monday, January 15th, 2001

Holly in Wasi Lake, Ontario wants to know why her 1x10 pine tongue-and-groove floors are shrinking and leaving such large cracks.

If you look at traditional hardwood floors you will notice that each board is rather narrow. In fact it is difficult to locate hardwood floors that are wider than 4 inches. The wide softwood tongue-and-groove floorboards that we see in old houses were actually never intended as a finished surface -- they were sub-floors designed only to provide good support for the final flooring. The problem is that if you have wide fluctuations in humidity from summer to winter, as is typical in old housing, the floorboards will change significantly in moisture content. The boards won't shrink or expand much along the grain of the wood, but across the grain they could change as much as 1/4 inch per foot, and back again, every year. This movement is greater for softwood than for hardwood. If you have several narrow boards, and each one shrinks a little, you don't notice the cracks much. But if you have 10 inch wide boards, you could see the whole 1/4 inch in a single crack -- enough to see right through the floor. No nailing or gluing technique will stop this. The only way to prevent this is to have a modern well sealed house with good climate control in all seasons -- which means a fairly consistent humidity level all year round. If you install wood that has been acclimatized to this humidity level, it will stay stable as it was installed.

Since Holly has to deal with wide softwood boards that are already there, the only way she can really control things is to control humidity fluctuations in her house. Check out Humidity on my website.

Keywords:

Controls, Cracks, Floors, Hardwood, Humidity, Levels, Moisture, Movement, Nails, Problems, Techniques, Wood