

Engineered Floors Cupping vs. Straight

Checking Stability: We found the following test helpful to check dimensional stability of an engineered floor. Cut a foot long section, then take moisture readings with the dual-depth Ligno-Scanner SDM. Select 1/4" depth and set meter for the wood species of the top layer of the material. Next, expose the top layer to moderate heat. (Could be heat from the sun on a warm day or heat from a heat duct, etc.) Do not heat the wood over 85°F. This will imitate changes in ambient conditions including floor installations over radiant heat. Check the moisture content with the Ligno-Scanner SDM periodically and look for cupping as the moisture decreases.

Two very different laminated floors

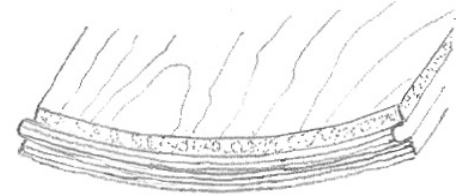
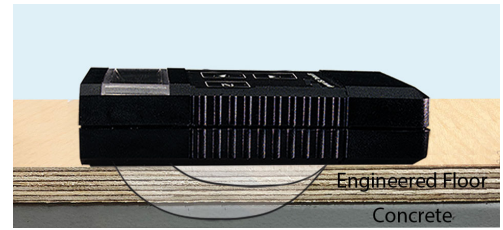
First floor: A Local floor supplier brought floor planks for testing to the Lignomat office. His customer had rejected a floor because of cupping and the floor supplier brought some of the not installed, left-over floor planks. We measured a moisture content of 10-11%. To confirm our measurements, we did an oven test, where the wood is dried down to 0% at 250°F. To our surprise the floor cupped badly. Under the extreme conditions, the top layer shrunk a lot, the backing very little, and the floor planks cupped. The width of the panel (8") attributed to the large amount of cupping

This engineered floor may have been perfectly flat at the manufacturing facility at 10-11%. As the floor dried down to 7% the top layer of the plank shrank more than the bottom layer. The floor planks cupped and will stay cupped unless the moisture goes back to the initial 10%. No amount of acclimation will help the engineered floor. In a solid floor, cupping may disappear when the entire floor plank dries down.

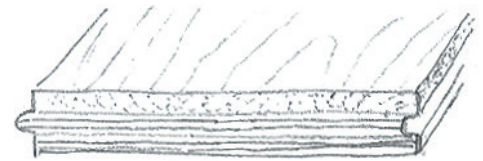
Second floor: After the costly experience the floor supplier became cautious. He brought a second laminated floor which was to be installed over radiant heat.

At first, we did the stability test, as described before. We exposed the floor to heat from the sun and measured the changes in moisture content of the top layer with a Ligno-Scanner SD. The moisture in the top layer changed from 7.5% to 5.35%. No deformations were visible.

Next, we did an oven test. Even after the extreme heat of the oven there were hardly any distortions noticeable in the floor planks. The floor was very stable and suited for a radiant heat application. Not all laminated floors and engineered panels are moisture sensitive. Be selective to avoid problems.



First floor tested looked like this after the oven dry test, which reduced the moisture content to 0%. In some regions of the US during some seasons the relative humidity can drop as low as 15%.



Second floor tested looked still like a perfect floor even after the oven test, which reduced the moisture content to 0%.



Dual-depth meters are ideal for laminated floors:

- Ligno-Scanner S
- Ligno-Scanner SDM
- Ligno-DuoTec BW
- Ligno-VersaTec

