



### **Radiant Installation Warranty**

The humidity level MUST be maintained ABOVE 40% in order to validate the warranty.

A common problem that happens is that the floor will cup and/or crack when the radiant heat is ``cranked up`` by individuals who are cold. Cranking the heat above the maximum temperature recommended by MooseWood Flooring will void the warranty.

In order to confirm that the floor maximum temperature is not exceeded MooseWood Flooring will require ``thermal sensors stickers`` to be applied in strategic areas of the floor and heating system. Thermal sensor stickers are strips of tape with crystals that change to black at a specific temperature. If the heat on the substrate below the hardwood flooring exceeds 81F (27C), or the tube temperature out of the boiler exceeds 129F (54C) these crystals will turn black. Once they turn black you cannot reverse the color change.

MooseWood Flooring will require 1 thermal tape to be placed on the main tube coming out from the heating unit in the home. MooseWood Flooring will also require a thermal sensor tape on the subfloor placed within one (1) foot radius of the tube that feeds the main heating area. Thermal sensors will be mandatory in order for MooseWood Flooring to warranty radiant installations. If using radiant heat systems other than concrete slab, 3 sensors must be placed in various locations on the floor.

If a problem occurs and MooseWood Flooring is required to inspect a potential claim, we will require that these thermal sensors are removed for verification of temperature. If these sensors are not available to MooseWood Flooring in accordance with our installation guidelines, the claim will be denied. It is extremely important that the sensors be placed in an area where it can be extracted by us for temperature verification. MooseWood Flooring requires that the installer draw a diagram on the placement of the sensors in the main heat floor area. This diagram must be submitted to the homeowner and MooseWood Flooring for record keeping.

#### **Subfloor Preparation :**

New concrete that is less than 60 days old – radiant heat must be turned on and left on for a period of 45 days prior to installation of the MooseWood Flooring material. Turning the radiant heat on will allow the moisture that is in the concrete to evaporate from concrete. If the concrete is not dried and floor is installed, the moisture that is in the concrete will migrate into the wood floor. Perform a calcium chloride or polyfilm test (see attached) to determine moisture content of concrete. The Radiant heat must be turned off for at least 48 hours prior to installing any flooring for a conditioning period.

Older Concrete – Heating and/or cooling concrete must be done slowly. MooseWood Flooring requires that the radiant heat be turned off for at least 48 hours prior to installing any flooring. Turning the heating system off allows for the concrete to properly condition.

**Note : Not conditioning the concrete will void all MooseWood Flooring warranties.**

Maximum Temperature :

- ) Maximum Tube Temperature out of boiler – 129F (54C)
- ) Maximum Concrete Temperature - 81F (27C) (Below hardwood flooring)

**\*\*\*\* IMPORTANT\*\*\*\* when using any radiant heat system other than the slab system referred to above, you must confirm with your heating contractor that the Maximum Temperature of the surface of the subfloor (below the hardwood flooring) CANNOT EXCEED 81F (27C).**

### Calcium Chloride Test

The Calcium Chloride Test works by measuring changes in weight of anhydrous calcium chloride crystals.

A small plastic dish of crystals is sealed with a plastic tape. The entire dish is weighed on a gram scale prior to exposure and the weight, date and time the test was started must be recorded. The lid is then opened and the dish of crystals is carefully set down on the concrete for 60 to 72 hours. The dish is enclosed within a 7-by-10 inch cover, which is sealed to the concrete. During this time, the only source of moisture being absorbed by the crystals is what can evaporate out of the covered concrete surface area.

At the end of the test, the dome is removed and lid is placed back on the dish and sealed. Again the dish is weighed on the gram scale and the date and time are marked. The change in weight is multiplied by a constant and divided by hours to provide an estimated rate of evaporation, in pounds (which is the equivalent weight of the water that evaporates out of a 1,000 square foot surface area during 24 hours). Water weighs 8.3 pounds per gallon. If the test reports 8.3 pounds emission, then one-gallon of water is leaving a 1,000 square foot surface in 24 hours.

A conservative but generally recommended allowable amount of moisture as expressed by the calcium chloride test is 3.0 pounds per 1,000 square feet per 24 hours at the time of installation of the flooring.

**A note of caution:** Use care in lid sealing and removal of the dish and weighing as exposure to atmosphere will dramatically affect the results.

### Polyfilm Test

Piece of 24-inch squares of 6mm polyfilm are placed at several points on the subfloor, sealed to the subfloor on all four sides with silver duct tape. After 24 hours, the patches are removed and inspected for signs of condensation. If beads of water are found on the subfloor or the concrete appears darker, further testing is necessary. If there is no indication of moisture under the polyfilm, the installation may proceed. The reading is valid at 24 hours but it is even better if the test can stay in place until 72 hours have passed.