



# SUPERIOR FLOORING RADIANT HEAT COMPLIANCE INFO

FOR SUPERIOR ENGINEERED & ENHANCED  
HARDWOOD FLOORING

# IMPORTANT INFORMATION

This warranty validation process must be completed and signed by both the installer and the homeowner before any product is shipped. Our radiant heat guidelines and warranty take precedence over NWFA guidelines. However, for situations not specified in this guideline, NWFA guidelines are recommended. Herwynen Sawmill Ltd. does not warranty or recommend any of our Solid hardwood be installed over radiant heat.

Once both the homeowner and installer have completed and signed the Radiant Heat Compliance Form, send a copy of this form along with the original order confirmation back to Herwynen Sawmill Ltd. We will assign this form a number and keep it on file for our records. Should a problem occur, this form will be used for reference. Herwynen Sawmill Ltd. will only warranty certain widths and species of flooring over radiant heat. **Please see table 1 for products that are acceptable on radiant heat.**

TABLE 1

APPROVED RADIANT HEAT SPECIES & SIZES			
Species	Platform & Thickness	Size	Approved
Ash	Engineered $\frac{3}{4}$ " (19mm)	5 $\frac{3}{16}$ " , 6"	YES
Hickory	Engineered $\frac{3}{4}$ " (19mm)	5 $\frac{3}{16}$ "	YES
Hickory	Enhanced $\frac{3}{4}$ " (19mm)	6" , 7"	NO
Maple	Engineered $\frac{3}{4}$ " (19mm)	5 $\frac{3}{16}$ "	YES
Maple	Engineered $\frac{3}{4}$ " (19mm)	7"	NO
Maple	Enhanced $\frac{3}{4}$ " (19mm)	6"	NO
Red Oak	Engineered $\frac{3}{4}$ " (19mm)	5 $\frac{3}{16}$ " , 6" , 7"	YES
White Oak	Engineered $\frac{3}{4}$ " (19mm)	5 $\frac{3}{16}$ " , 6"	YES
White Oak	Enhanced $\frac{3}{4}$ " (19mm)	7"	YES

**With a good understanding of how Engineered and Enhanced hardwood flooring will react to radiant heating systems, you can install this product and have it last a lifetime.**

**Please sign the Radiant Heat Responsibility Form found attached at the end of this document. This must be done to validate warranty and before any product is shipped.**

# PREPARING THE SUBFLOOR

**Heating and cooling cycles in concrete floors must always be done gradually to allow wood to acclimatize to the floor at a rate that doesn't destroy your flooring.**

**For Existing Concrete:** If your concrete floor is pre-existing (not recently poured) in your house but the radiant heat has not been used in the last 60 days, Superior Flooring requires that the radiant heat be turned on for at least 120 hours to get any existing moisture out of the concrete. This needs to be done regardless of season and after the concrete has cured. With some installation systems, and particularly with glue-down applications, you may be required to turn the heat down, or even off to avoid excessive curing of the glue. Perform a Calcium Chloride or Relative Humidity test to determine the moisture content of your concrete. If your concrete passes the test, you are then required to have the heat turned off for at least 48 hours before any flooring is installed. Conditioning your concrete in this manner prepares it for accepting your engineered flooring. Remember to work through these heating and cooling cycles gradually as it will help your concrete slab to adjust consistently. **Not conditioning your concrete subfloor will automatically void your Herwynen Sawmill Limited Lifetime Warranty.**

**For New Concrete:** If the concrete in your house is less than 60 days old, you must run your radiant heat system for at least 45 days before installing Engineered or Enhanced Flooring. By allowing moisture to evaporate from your floor for this 45 day period, you are giving the concrete time to stabilize. Once your concrete has stabilized, your Engineered Flooring will be able to be installed without risk of it picking up any residual moisture. Perform a Calcium Chloride or Relative Humidity test to determine the moisture content of your concrete. If your concrete passes the test, you are then required to have the heat turned off for at least 48 hours before any flooring is installed. Conditioning your concrete in this manner prepares it for accepting your Engineered Flooring. Remember to work through these heating and cooling cycles gradually as it will help your concrete slab to adjust consistently. **Not conditioning your concrete subfloor will automatically void your Herwynen Sawmill Limited Lifetime Warranty.**



Refer to the concrete testing section for information on the accepted methods.

**Note: If you are not using the slab style radiant heat mentioned on the previous page, it is important to confirm with your heating contractor that the surface temperature of the subfloor will not exceed 81°F (27°C). This is very important as your warranty will be automatically voided if this is not the case.**

# SUBFLOOR TESTING

## SUBFLOOR MOISTURE TEST

Subfloors should have proper moisture tests according to the moisture testing procedures outlined in the Radiant Heat Compliance Form. Whether your radiant heating system is made of concrete, wood, or a combination of both, one of the most important things to remember when installing wood flooring is to avoid penetrating the heating element. You will need to alter your installation methods depending on the type of subfloor used. Always test concrete in accordance with the Radiant Heat Compliance Form. With water-heated radiant-heat systems, a pressure test must be performed and documented by a qualified plumber or the system installer prior to beginning the installation of the wood flooring. Electric under floor systems should also be tested prior to floor installation. Check heat system manufacturer guidelines. If flooring materials that conduct heat at different rates are on the same circuit or heating zone, check with the HVAC mechanical engineer and Radiant Panel Association before proceeding.

## RELATIVE HUMIDITY TEST

Relative humidity moisture testing is the standard test method for determining relative humidity in concrete floor slabs using in-situ probes. The results of this test give quantifiable values and may be used to test lightweight concrete and gypsum-based underlayments.

Relative Moisture Test (ASTM F 2170) is one of the industries most thorough tests when checking the moisture content of concrete. In-situ tubes use an ultrasonic sensor to check the relative humidity of the concrete slab to 40% of its depth. A reading of 75% RH or less indicates that the concrete slab is ready to receive the wood floor; a reading between 75% and 85% indicates that it is preferable to place a waterproof membrane before installing the wood floor. Never install a hardwood floor when moisture level is greater than 85%.



## CALCIUM CHLORIDE TEST

The Calcium Chloride Test (ASTM 1869) 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 the 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 area in 24 hours.

A conservative, but generally recommended, allowable amount of moisture emission as expressed by the calcium chloride test is 3.0 pounds per 1,000 square feet per 24 hours at the time of the installation of the flooring. A note of caution: Use care in dealing with the lid, removal of the dish, and weighing as exposure to atmosphere will dramatically affect the results.

# GENERAL RADIANT HEAT GUIDELINES

As radiant heat is a dry heat, and the heat source is directly below the flooring, it has the potential to dry out much faster than with a conventional heating system. To counteract this, the humidity level in your house will need to be monitored and maintained at 30% relative humidity or above.

Radiant heat systems should be turned on and the temperature increased over an approximate 10 to 14-day period.

Regardless of whether the system is new or pre-existing, NEVER allow the radiant heat systems temperature to change up or down by more than 2° Fahrenheit per day. During the cold season when radiant heating is working at full power, humidity levels can get very low causing the wood to dry out and cause cracking or splitting. To avoid this type of damage to your flooring, it is imperative that the relative humidity in your house remain between 30% and 65%. To ensure humidity levels remain within the recommended range the installation of room humidifiers or a whole house system is strongly advised.

Rapid changes in temperature affect the moisture content of your hardwood floor. To minimize this, Superior Flooring recommends the installation of an outside thermostat. Unlike conventional heating systems which switch on when required, radiant heat systems work most effectively and with less trauma to the hardwood floor if the heating process is gradual and based on small incremental increases in relation to the outside temperature.

When using radiant heat, raising the heat up above the maximum recommended temperature will result in cracking and warping of the floor. Note that raising the heat above the maximum temperature suggested by Superior Flooring will automatically void your warranty.

## MAXIMUM TEMPERATURE

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Maximum Tube Temperature out of Boiler **129° F (54° C)**

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Maximum Subfloor Temperature **81° F (27° C)**



# SURFACE TEMPERATURE INDICATING STRIPS

Surface temperature indicating strips are used to ensure that the temperature of the floor does not exceed the temperature recommended by Herwynen Sawmill Ltd. These indicating strips contain crystals that change color when the temperature exceeds a specific temperature. These sensors must be shipped with ice packs, in a sealed and insulated container. If the surface temperature of the subfloor exceeds 81 °F (27 °C) or the temperature of the boiler output exceeds 129 °F (54 °C), these sensors will turn black. This colour change cannot be reversed.

- Surface Temperature Indicating strip must be placed on the main output tube of the boiler in your home.
- Surface Temperature Indicating Strip must be used for every 300 square feet of flooring installed, with a minimum of one strip per room. One of these strips must be placed above the location where the heat tube enters the room.

**Installation of these sensors is mandatory for your warranty to be valid.** These sensors are inexpensive, and can be purchased through authorized Superior Flooring dealers.

Herwynen Sawmill Ltd. requires that drawings be made by the installer to indicate the location of the Indicating Strips in each room of the house. These drawing must be submitted to both the home owner and Herwynen Sawmill Ltd.

**It is extremely important that these Indicating Strips be installed in a place where they can be inspected for temperature verification by a representative from Superior Flooring should a warranty claim arise. Should a warranty claim arise, and the Indicating Strips are not accessible, the warranty on the floor will be considered void.**





**SUPERIOR HARDWOOD FLOORING  
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