



## Installing Wood Floors over Warmboard

Historically, installing wood floors over radiant floors has been a challenge. Tubing embedded in thin or thick slabs has been the most prevalent radiant technology. It has been difficult to securely attach tongue and groove hardwood planks to slab systems. Additionally, slabs contain moisture, which can affect the dimensional stability of wood. Warmboard has made wood floor installation much more routine but there are still important considerations.

First, as always, follow the recommendations of your wood flooring manufacturer. Not all species of wood are good candidates for an installation over radiant heating. It's best to follow the manufacturer's recommendation for species suitability over radiant heat. When possible, choose a species that is known for its stability. Quarter sawn or rift-sawn flooring is preferable to plain sawn in the search for stability. Strip flooring is also a better choice than plank flooring, because narrow boards expand and contract less than wide boards do. Using narrow boards also means there are more seams in a floor to take up movement. Because of its dimensional stability, laminated flooring is another good choice. Remember, wood is a natural product that is known for its dimensional changes when humidity changes. Finished wood flooring will expand and shrink when the relative humidity changes are greater than 20%. Humidity control between 30-50% is important to maintain a stable wood installation. Also, a steady room ambient Fahrenheit of 60-80 degrees is recommended for a stable installation.

### Wood Flooring Choices:

With radiant heat, the heat source is directly beneath the flooring, so the flooring may dry out faster than a similar floor in a home with a conventional heating system. Wood flooring can be installed over Warmboard as long as you understand radiant heat and how it can impact wood flooring, what precautions to take, and what type of wood flooring to use.

Styles of wood flooring that are best for Warmboard installations are as follows:

### Quarter Sawn or Rift Sawn Wood Flooring

- Are more dimensionally stable than plain sawn wood flooring. Narrow boards - (2 1/4" or less) are the best choice of solid wood flooring over radiant heat.

### Laminated/Engineered Wood Flooring

- It is more dimensionally stable than solid wood flooring.

### Floating Floors, Laminated/Engineered or Solid Wood

- Tend to move as a unit to help accommodate moisture content changes.

For technical assistance call Warmboard toll-free 1-877-338-5493

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## General Installation Guidelines:

Hardwood installers will often test subfloor moisture content prior to an installation. It is not unusual to find that most moisture meters will give faulty readings when used on Warmboard. That is because these meters depend on conductivity to derive moisture readings and the aluminum surface will cause these meters to read unrealistically high. If the Warmboard has been under heat for one to three weeks (as it should prior to any hardwood installation) it will be at the right moisture content for installing hardwood regardless of the meter reading. Most hardwood is installed with a moisture content in the 6-9% range. To help ensure proper moisture content, your flooring should be on site, inside the home, with the heat on its normal setting for at least two weeks prior to installation. The bundles of planks should be broken open and stickered to ensure good air flow around each plank in order to stabilize the planks to local ambient conditions. Your local installer will be the best source for determining the optimum moisture content for your climate zone.

Hardwood is normally nailed directly to Warmboard without a moisture barrier:

1) because the aluminum surface is a better moisture barrier than any that might otherwise be used. 2) It is important to be able to see the tubes, as planks are nailed, to avoid damage.

Hardwood is normally nailed at right angles to the tube direction which allows plenty of nailing space between tubes. Typically, 1-3/4" or 2" flooring nails are used at 6" on center. Because wood flooring is a natural product, it will move as daily and seasonal ambient conditions change. This can cause very subtle settling sounds. Nailing at close spacing (6" o.c.) will limit this and will produce the quietest, most stable floors.

Occasionally, the choice of plank direction will have the planks running parallel to the tubing. In such cases, there will be occasions where the edge of a plank lines up with a parallel tube which will make edge nailing impossible. There are two good approaches for addressing this situation:

- o Use 3" planks. If the starter plank is placed with care, as planks are nailed across the floor, because the tubes are precisely 12" on center, the edges will never line up to cause a nailing problem.
- o If you are using 2-1/4" or 3-1/4" planks, when the occasional edge interference happens, either face nail and putty that particular plank in a way that avoids the tube or use any good wood floor adhesive to glue down that particular plank then continue to nail adjacent planks as usual.

## Conclusion:

Wood works quite well over Warmboard so long as you:

- Select a stable species
- Choose a good cut (rift cut or quarter sawn)
- Acclimate your planks to proper ambient moisture levels
- Pay attention to the visible tubes as you nail
- Please follow the ordinary and customary procedures recommended by the National Wood Flooring Association ([www.woodfloors.org](http://www.woodfloors.org)) and the Hardwood Flooring Council. ([www.harwoodcouncil.com](http://www.harwoodcouncil.com))