



Technical bulletin :
**Design, Installation, and
Maintenance of Radiant
Heating Systems**

Objective:
Installing hardwood flooring over a radiant heating system requires specific precautions to preserve the product's integrity and performance. This bulletin outlines key recommendations for the design, installation, and maintenance of radiant heating systems to minimize the risks of cracking, drying, or warping of the wood, and to ensure optimal long-term performance.



Key Considerations

- The use of a radiant heating system beneath a hardwood floor requires special attention during its design, installation, and operation. Always take into account the type of flooring to be installed over the heating system.
- Any negligence or failure to follow the recommendations—whether intentional or accidental—can result in surface cracking of the wood.
- Never set the glycol heating unit above 80°F / 26.7°C.
- The overall heating system of the home (radiant and auxiliary) must be designed to adequately supply the required BTU/h so that the surface temperature of the floor does not exceed 80°F / 26.7°C, regardless of the heat distribution location.
- Never exceed a heat flux of 20 BTU/h/ft².
- An auxiliary heating system should be planned for colder days.
- Avoid temperature changes greater than 5°F per day to prevent thermal shock to the floor.
- Be cautious: using rugs or carpets over the floor can create hot spots and damage the underlying wood floor.
- Directly heating the wood flooring will reduce its moisture content (drying effect), meaning it will shrink and may even crack.





Recommendations

- The Relative Humidity (RH) of the air should always remain above 37%.
- Thermostats equipped with floor sensors help monitor floor temperature more accurately.
- Plank width: the wider the board, the greater the risk.
- Quarter-sawn (SQ) wood is more stable than plain-sawn.
- The cutting method of the top layer (peeled, sliced, or sawn) should be considered. Sawn wear layers are more stable than the other types.
- Installing Hickory hardwood flooring over a radiant heating system is not recommended.
- Note that white oak has a more sensitive grain structure and is more prone to surface checking. (Stricter adherence to guidelines is necessary.)



Conclusion

Purchasing a hardwood floor remains a significant investment and must be properly protected. Make sure that all parties involved in the design and execution of related installation work are qualified and competent.



Contact Information:

For further assistance, please contact our technical support team.