

# Gimme a fin: Unique radiant heat system combines qualities

**F**or many home owners, radiant floor heating is the great ideal. Many dream of having it, but it tends to be a premium product few can afford. And, problems reported with different radiant designs make some people think twice: some installations don't give the heat, some are prone to breakdown and some are outright expensive.

What's a homeowner or a contractor to think?

During the last 20 years, basically two types of hydronic radiant floor systems have dominated the market: concrete overpour and staple-up. These systems rely on contact heat transfer, where the hot water tubing makes direct contact with the floor structure. Overpour systems operate at low temperature to warm concrete floor slabs poured on top of the floor sheathing, while staple-up systems operate at higher temperatures to heat the wooden subfloor itself.

New products are using different approaches to heat transfer. The Ultra-Fin system is notable in this



*Ultra-Fin's defining factor is a series of aluminum radiators that rivet to PEX tube between joists, greatly increasing heat transfer and promoting convection, effectively turning the entire floor into a radiant surface.*

regard: it runs high temperature tubing through the floor joists and generates hot air convection in the intervening air spaces. The system never makes contact with the subfloor.

## Heat Response

Some people complain that radiant floor heating doesn't deliver the heat

quick enough; when you want it. You come home and find the house cold, turn up the thermostat, but the house takes a long time to heat.

It takes a long time to warm large slabs of concrete with low temperature water (around 100°F). Once it's warm, it's comfortable — but it can be a long time getting the comfort if the outdoor temperature is -5°F and your thermostat has been turned down all day. The key to these systems is to leave them running continuously.

Staple-up systems run at higher temperatures (around 140°F), but the heat response is not much faster. Like overpour systems, they tend to create uneven hot and cold spots across the floor, so they can also create problems for floor coverings.

The Ultra-Fin system has very quick heat response. It's a high temperature system, generally running around 180°F, yet it keeps the floor temperature very even because the tubing never touches the actual subfloor sheathing. In contrast to contact transfer systems, the hot air convection warms the entire floor, not just strips of it. Ultra-Fin's manufacturers guarantee the system to work with all floor coverings, including hardwood.

## Installation Cost

The cost to install these systems varies significantly. Overpour systems tend to be the most expensive when installed correctly. The cost comes in additional floor engineering to support the slabs, as well as large amounts of tubing to create the tight tubing spacing.

Staple-up systems use as much tubing as overpour, and both systems require a lot of mechanical work in the form of complicated manifold connections, pumps and balancing valves. All of these devices add to the cost and complexity of installation, as well as maintenance.

By comparison, Ultra-Fin's installation is more like a hydronic baseboard system. Rooms can be zoned individually, and most can be heated with just one tubing loop. The loops are home-run back to one central manifold, and there are no balancing valves so connections are easy.

No question — hydronic radiant floor systems can differ greatly in design, function and cost. When making a final selection, homeowners and contractors will want to consider at least two major characteristics: heat

response and installation cost.


If you spend the money, make sure you can get the heat. Look for independent testing results to ensure the system will meet your heating needs. Some systems are more affordable than others, and high cost does not guarantee good performance.

Homeowners will be very happy with a system that responds with abundant heat on demand — because no one wants to be left in the cold in the dark days of winter. n

For more information, contact MacDuffco Manufacturing at 888/565-2267 or visit [www .ultrafin.com](http://www.ultrafin.com).



*The Ultra-Fin radiant system requires fewer loops than a comparable staple-up system, saving time and money on installation. The system operates at 180°F and requires fewer manifolds and other hardware, yet can be zoned for greater comfort.*





INSUL-TARP, as shown here, has been rolled out and installed with radiant tubing banded to wire mesh.

- Truly Efficient
- Easy to Install
- Greater Profits
- Consistent Performance

We are currently looking for additional distributors and manufacturers reps.

Insulation Solutions, Inc.  
 Affil. of Meyer Enterprises  
 456 West Camp Street  
 East Peoria, IL 61611  
 Ph: 309-698-0062 Fax: 309-698-0065

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