

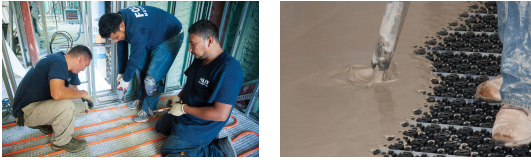
the NEWS

Efficiency, Comfort, and Innovation Distinguish Radiant Market

Radiant products are touting higher compatibility and efficiencies



TUBING TRIO: Technicians for Foley Mechanical Inc. in Lorton, Virginia, secure Watts Radiant PI of a facility in Washington, District of Columbia.



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Nick Kostora

New technology is emerging fast and furiously throughout the radiant heating market. Leading manufacturers are creating and following trends at a pace even Vin Diesel would struggle to keep up with while also crafting products that showcase the innovation present all over the marketplace.

“In reality, [what’s driving innovation in radiant heating] is being competitive against other types of heating, especially when so many types of HVAC use the same equipment and delivery systems for both heating and cooling, said Rich McNally, eastern region sales manager, [Watts Water Technologies Inc.](#) “But, if energy efficiency and comfort are factored in, radiant leaps forward.”

“Some of the main things we’re seeing are the continual fluctuations in natural gas/propane pricing and the dramatic reduction of available equipment space. Together, this is driving the need for more efficient and compact systems,” said Dave Salyer, product manager, [WaterFurnace Intl. Inc.](#)

The natural gas prices Salyer referred to should remain friendly to contractors and consumers alike for the foreseeable future. According to the U.S. Energy Information Association ([EIA](#)), natural gas cost \$10.94 per thousand cubic feet (mcf) in 2014, went down to \$10.33 mcf in 2015, and is projected to fall to \$10.25 in 2016.

Mark Hudoba, director of heating and cooling at [Uponor](#), said innovation in radiant heating continues to be driven by the needs of the different customers installing and using the systems.

“Building owners and homeowners desire improved comfort and energy efficiency while contractors are dealing with labor shortages and require easy and quick-to-install products,” said Hudoba.

ALL THE LATEST

Innovation may seem like just another catchy buzzword, but its practical application is readily apparent in the diversity of products being released by major radiant heating manufacturers.

Bosch Thermotechnology Corp.'s condensing boilers are fully compatible with a radiant floor or snow-melt heating system. Bosch's geothermal heat pump system is similarly compatible with radiant floor comfort systems.

"Radiant cooling continues to be a strong component in commercial applications," said Devin Abellon, business development manager of engineering services, Uponor. "As engineers, contractors, and building owners learn more about how radiant systems work, we're seeing expanded applications where embedded tubing is being used as the primary means to provide sensible cooling capacity. With the increased demand, manufacturers are providing innovative approaches to help commercial contractors install these systems more efficiently. A great example of this is Uponor's Radiant Rollout™ Mat — a custom-designed, prefabricated, pre-pressurized network of PEX tubing that is shipped to the job site in large rolls and rolled out onto the surface for faster, easier, and more consistent installations."

"Homeowners' desire for comfort and energy efficiency is why Uponor incorporated radiant temperature sensing into the Uponor Climate Control™ Zoning System thermostats," said Hudoba. "This feature provides more accurate sensing of the temperature actually felt by the human body. Thereby, the product provides control of the system that both improves comfort and energy efficiency. To improve the ease of installation, Uponor offers products such as Quik Trak® plywood radiant panels, Fast Trak™ aluminum panels, and Radiant Rollout Mats to reduce installation time for the installing contractor."

WaterFurnace recently released the 5 Series with OptiHeat line of water-to-water products, which "dramatically increases the available leaving water temperature range and increases heating efficiencies," according to Salyer. "This new technology allows geothermal heat pumps to be applied in applications where they were typically not used, such as baseboard heating."

"I was talking to a small group of contractors recently about 'cost-competitive' radiant, and the topic of 'staple-up' arose," said McNally. "Some installers do a lot of joist bay installations, warming floors from below the subfloor. They discovered 'FlexPlate,' the flexible, lightweight, easy-to-cut carbon-fiber heat-transfer plate with a built-in channel to support the tubing. I was glad to see they knew about it. The carbon fiber is about 40 percent more efficient at transferring heat than aluminum and much easier to work with, so installations go faster."

McNally also mentioned that, while intelligent controls were once "stuck in the commercial market," it was only a matter of time before they found their way into the residential side of the business.

“The Watts company — [tekmar Control Systems](#) — is a controls think tank,” said McNally. “New controls now provide us with zoned, medium-temperature modulation and boiler modulation. Systems now modulate on actual dynamic demand and zone synchronization. When enough zones are ready for heat, the system is called. A key advantage is much longer run times with much lower return water temperatures, which is a huge advantage with mod-con boiler installations. Total system efficiency is optimized, boiler longevity is improved, and greater comfort is achieved.”

“In residential radiant heating, technological advancements continue with system controls,” said Hudoba. “For example, thermostat technology continues to progress, following the overall heating market with thermostats that have improved aesthetics; easy user interfaces, such as touch screens; and control via remote access using a smartphone.”

THE ROLE OF CONTRACTORS

While there’s no doubt innovation is occurring throughout radiant heating, there is some difference of opinion in regards to the role contractors are playing in actually driving that growth across the country.

“As more and more homeowners are experiencing the comfort radiant heating can deliver, the demand for systems is increasing,” said Salyer. “This creates an increasing diversity of applications, which require new tools and products to accommodate.”

“Ten or 20 years ago, when the economy was stronger, I think we could say that [contractor demand was driving innovation],” said McNally. “Today, in some respects, contractors can be their own greatest competitors. For instance, the option of radiant heat is often thrown under the bus, assumed to be too expensive and perceived to be too far out of reach. The common denominator among installers who are successful at installing radiant is their willingness to champion it among home and business owners.”

Along those lines, contractor willingness and the ability to showcase radiant products should only continue to improve as more efficient and cost-effective technologies find their way into the HVAC marketplace.

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