



WARM HOSPITALITY

A highly effective radiant heating solution allows a Manhattan hotel to offer unrivaled comfort

By Margaret Poe
Senior contributor

Kevin Kilbride has a question he likes to ask developers, builders and regular folks alike: Does heat rise?

Most people say yes. But as Kilbride explains, it's the hot air that rises—not the heat.

With forced air, anyone seated near a large window, whether in an office, restaurant, home or hotel, feels the chill, even though the heat is on. No matter how high the thermostat is turned up, the window will remain cold, Kilbride says.

It's Simply Science

"The absolute only way to solve that problem is with radiant heat," says Kilbride, president of **ThermaRay**, a manufacturer of electric radiant heating systems based in New Brunswick, Canada. "It's simply a matter of thermodynamics."

Radiant heating can be explained by a core scientific principle: Heat transfers from a hot object to a cooler object. It's how the sun heats the earth. As a building principle, it dates back to Greek and Roman times. That said, it has only been commonly applied to modern construction since the 1980s.

Endless Pursuit of Comfort

Comfort was a huge priority for the developer of New York's **Hyatt House**, an extended stay hotel in Manhattan's Chelsea neighborhood that will open in the fall of 2016. Early on in the project, the engineers considered their heating options.

"If they used a forced air system, the ductwork would either reduce the height of the ceilings or the floor baseboards would limit access to the curtain wall and window," says Project Manager **Masha Dinaburg**, associate at **MG Engineering D.P.C.** "and curtains over each window would block the forced air, creating a cold zone with condensation on the windows."

The developers needed the floors and windows to all remain warm, but they couldn't use a system that blocked views of the Manhattan skyline. Enter, ThermaRay.

Top 5 Benefits of Radiant Heating

Lower capital cost

Lower installation cost

Lower operating cost

No maintenance costs

No replacement costs

It's the Experience

“Radiant heating panels offset the heat loss at the window while making the guest experience pleasant, providing them a gentle warmth while sitting on the bed near the curtain wall and window,” Dinaburg says.

“The problem with glass towers is that standard HVAC systems can’t provide comfortable heat at the glass, thus making it uncomfortable for those sitting next to the windows,” adds Kilbride.

Comfort is a major benefit of radiant heating—but it’s far from the only one. ThermaRay’s system, which is powered by electricity, is extremely effective at delivering warmth and comfort while saving energy.

Unlike a duct-based system, it’s not circulating air, which potentially can transfer dust and allergens throughout a building. Perhaps best of all, there are no maintenance costs. That’s because there are no moving parts, no bearings, nothing to rust or corrode.

“If you design the radiant heating system right from the start, it will last as long as the building lasts,” Kilbride promises.

How It Works

The radiant heating systems made by ThermaRay are powered by electricity.

Hyper-effective panels installed in the floors or ceiling contain coils—much like those in a toaster—that radiate heat. This heats the solid objects in a room, such as furniture, floors, windows and even people.

In doing so, it reduces the difference between your body temperature and objects such as furniture and windows. That chill you feel when you sit by a cold window? That’s the sign of a big temperature difference.

“The greater the temperature differential, the cooler you’ll be,” says Kilbride. “Conversely, the smaller the temperature differential, the more comfortable you’ll feel. “

Design Considerations

Maintaining the design, look and feel of the Hyatt was very important for the architects. The heating panels themselves are invisible to hotel guests.

Because of the room layout, the Hyatt required very slim heaters. ThermaRay custom-designed units just 2 inches deep that could be completely hidden by the window valance. Controls in the room allow guests to adjust the temperature.

“Getting the temperature right is becoming increasingly important for developers today—both for pleasing their customers as well as for meeting sustainability standards, such as LEED.” Kevin Kilbride says.

To learn more about radiant heating solutions, visit [ThermaRay](#).