Radiant Walls and Ceilings FOR THE BATH

Any surface in the bathroom — and even some fixtures — can be a radiant heat source

by Thorp Thomas

If you've never been in a room with radiant heat, it's hard to imagine the feeling. Because a radiant source heats people and objects, not the air, radiant heat provides a special level of comfort, with none of the chilling or drying effects of moving air. It's like standing in the warm sunshine on a clear, windless autumn day.

All the arguments in favor of radiant heat go double for the luxury bathroom. Today's high-end bathroom costs as much as an average house cost just a generation ago. Homeowners making this kind of investment want to be comfortable when they step out of the shower dripping wet. The gentle warming of radiant heat can make the bathroom a place where you can relax and rejuvenate yourself, not a cluttered, chilly room that you can't wait to leave.

Some of the custom bath designer's favorite materials — such as heavy tile or marble — tend to absorb radiant heat, almost "sucking" the heat from our warm bodies instead of reflecting it back to us. But by turning those materials into

radiant sources, we can make them a source of comfort instead of discomfort.

Radiant heat also gives custom bath designers greater control over the visual aesthetics of the room. One bath designer I worked with recently insisted that the heating system be completely invisible; radiant heat was the perfect solution.

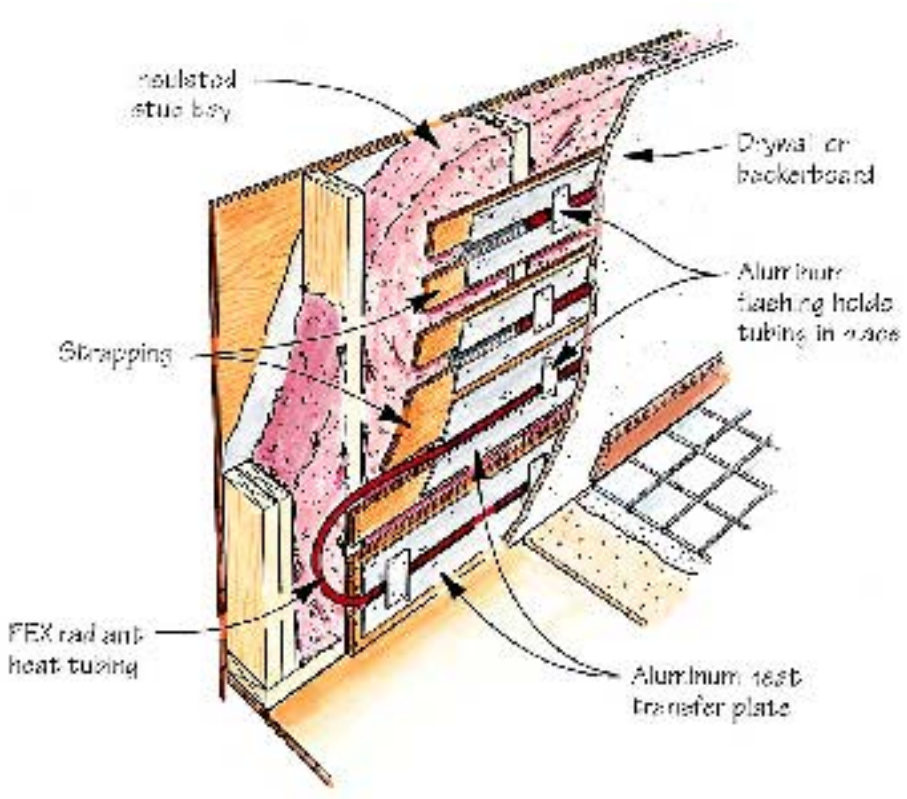
The Radiant "View"

While radiant floors are by far the most common system I install, the floor alone may not always provide the required heat. For instance, on one recent job a large whirlpool tub occupied so much floor space that I couldn't get enough radiant tubing in the floor to satisfy the heating load without cranking up the temperature too high. In a case like this, I supplement the radiant floor tubing with tubing in the walls and ceiling.

In other cases, particularly remodels, radiant floor installation may prove impractical. A thin slab might add too much height to the floor, while a dry installation between the floor joists might necessitate tearing up a finish ceiling below.

Fortunately, the properties of radiant heat allow the heat source to be located

Warm Wall Details



For a "dry" radiant installation to work well in a wall or ceiling, the heat transfer plates must make full contact with the drywall or cement board. The author uses wide strapping to fully support the aluminum plates against the back of the back of the wall finish.

The PEX heat tubing fits in a channel in the heat transfer plates. On wall and ceiling installations, the author staples small squares of aluminum flashing over the tubing to hold it in place.

RUNTAL

THERMOTECH

The author sometimes includes a combination towel warmer-radiator in a radiant heat installation; it's a classy way to use wall space to meet the bath's heating load. Several types are available, including flat panels (top) and tube styles (above).

anywhere in the room. It's a common misconception that "heat rises." Although warm air does tend to rise through convection, heat actually radiates out in all directions, flowing from warm to cold.

Unlike ordinary convection heaters, which stratify a room by concentrating the warm air near the ceiling, a radiant heat source will try to heat whatever it "sees." This is what I call the radiant view: If a radiator is looking directly at a large window, it will try to heat the outdoors; if it's looking at another wall, it will heat that wall.

Looked at in this way, it's obvious why the ceiling would be a good source for radiant heat: It has an unobstructed "view" of everything below. A radiant ceiling will tend to warm the person using the bathroom, as well as the fixtures and floor below.

Installation

The method I use to install radiant tubing in walls and ceilings is a variation of the "dry" floor method, which uses thin aluminum transfer plates instead of concrete to conduct the heat to a larger floor area.

First, the joist or stud bay is insulated. Even on an interior wall this is important, because it helps the heat move in the right direction. Next, we nail up strapping to support the aluminum plates, then staple the plates to the strapping. As the tubing is inserted in the aluminum plates, we hold it in place by stapling small squares of aluminum flashing over it.

Once the tubing is in place and has been pressure-tested, the finish surface can be attached — usually backerboard and tile, blueboard and plaster, or drywall. On one recent job the finish wall was marble slabs attached directly to the strapping.

You can avoid some of the labor of installing the tubing by using a product like Climate Panel (see "Sources of Supply," at right), a one-piece unit combining transfer plates and plywood backing. With this product, the tubing snaps into premilled channels and needs no fastening.

Getting Creative

Tubs and showers stalls can also become radiant heaters. On occasion I'll wrap a tub unit with radiant tubing. We attach the tubing temporarily with hot glue, then use epoxy for a permanent bond. We also recently finished a shower stall in which we set radiant tubing behind the marble slab walls. This serves the dual purposes of supplementing the room's heat and removing the stark coldness of the marble.

Instead of concealing radiant tubing in a wall, another option is to use a towel warmer mounted on the wall (see photos, left). Besides providing the luxury of warm towels, or a place to dry wet ones, these products also supplement the total radiant heat in the bathroom.

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Sources of Supply

Northern Radiant Floors
6800 Otter Lake Rd.
Lino Lakes, MN 55038
800/666-1111
Thermo-Tech towel warmer

Radiant Technology
11A Farber Dr.
Bellport, NY 11713
800/784-0234
Radiant Rack towel warmer

Runtal North America
P.O. Box 8278
Ward Hill, MA 01835
800/526-2621
Panel radiators and towel warmers

Stadler Corporation
3 Alfred Circle
Bedford, MA 01730
617/275-3122
Climate Panel