# A Porch for All

Removable window sashes and a weather-ready floor provide a well-insulated room in the winter and a breezy porch in the summer

BY MIKE NEATON



ouldn't it be nice to have a porch that would be comfortable regardless of the outside temperature? Here in Minneapolis, many of the more sumptuous houses built in the 1920s included heated four-season porches where their owners could stay connected to the outdoors. Later, not being able to afford those energy-hogging uninsulated porches during a cold Midwestern winter, most homeowners settled for an unconditioned three-season porch.

That was then. Today, advances in building materials and mechanical equipment are making it possible for four-season porches to make a comeback, without the big fuel bills. On a recent job, my company built this 21st-century four-season porch.

Originally, four-season porches had continuous jambs with three tracks that allowed the window sashes to slide past one another into a recess in the wall when not in use. Today's tight air-infiltration requirements argued against that plan, so we decided to modernize the approach.

We focused our efforts on four areas: an unconventional use for common windows, a creative approach to structural framing, a weatherproof floor that provides active and passive heating, and an insulation strategy to withstand a Minnesota winter.

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**Transforming windows and hidden storage.** Window pockets hidden behind removable panels provide in-room storage for the removable sashes without compromising on aesthetics, insulation, or structural support.

## Disappearing windows make a year-round room



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Seasons

An unconventional use for common windows

This porch uses double-glazed, low-e energy-

efficient windows with removable sashes. Although the windows were designed to be a convenient method for cleaning the glass, we took it a step farther. The sashes can be removed completely, leaving room for hinged panels to fold over window tracks to create the look of solid columns.

### Creative insulation fits tight space constraints

After all the gaps, seams, and transitions

in the rough frame of the porch were caulked, the walls were clad with 1½-in.-thick panels of rigid foam (XPS) on the exterior, and another layer of 1½-in. rigid foam hidden behind a plywood panel. All rigid-foam gaps were sealed with spray foam, and joints were covered with housewrap tape.

## Durable floor provides both mechanical and passive heat

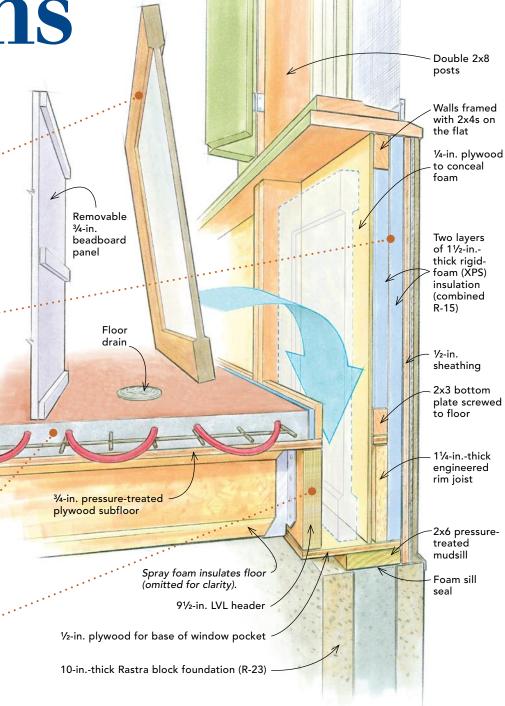
The weatherresistant

stained-concrete floor has embedded radiantheat tubing, which is fed with a high-efficiency water heater (www.marathonheaters.com) aided by roof-mounted solar panels. The slab also acts as a heat sink, collecting direct solar gain and warming the room. Floor drains provide insurance against summertime rains.

#### Forget what you know about framing

To store a pair of window sashes below each opening

and still accommodate the desired insulation, the walls were framed with 2x8s. To keep the windows at a reasonable height above the finished floor, the storage pockets had to be recessed into the floor. This required hanging the floor joists from LVL headers set a few inches back from the mudsill.















63

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