

OWNER-BUILDER Goes for *Passive*

Honeoye Falls, New York

Jason DiPietro developed an appreciation for owner-built homes early in life, having watched his father build their family's home not once, but twice. Inspired, DiPietro was determined to one day build "the very best house I could build." Having researched several building methodologies, he found that the science-based approach of Passive House instantly resonated with him. After locating a prime piece of land and designing his dream house, he left nothing to chance, assigning himself the role of general contractor. He then turned to his original inspiration for support—his 68-year-old father—who was on his team from day one.

When choosing wall assemblies and other details, DiPietro relied on the advice extended by Passive House professionals. "The Passive House community was not only passionate and technically minded, but very forthcoming with details and information," he says.

Weighing Passive House's technical specifications against his own desire for a water view, DiPietro took one side step from Passive House logic—opting for large

Team

Builder

DiPietro Builders
—jason.dipietro@gmail.com

Architect

Marathon Engineering

Certified Passive House Consultant

[Rochester Passive House Consulting, LLC](#)



windows overlooking the pond on the north side of his property. But DiPietro planned compensations. The master bedroom's floor-to-ceiling glass is a triple-paned

uPVC window, complemented by a similarly Passive House-rated glass door. This door opens onto a deck with stunning views of the pond. Matching lower-floor counterparts in the kitchen and basement both give access to the yard. DiPietro further adjusted for the heat loss by superinsulating and air sealing.

The build began with a superinsulated basement slab and walls; reclaimed EPS foam helped with both cost and environmental impact. The above-grade walls consist of R-50 double-stud wall assemblies with a 2 x 6 load-bearing exterior wall and a 2 x 4 interior wall, 24 inches on center. DiPietro used proprietary sheathing as the primary air barrier and 4 inches of closed-cell spray foam, applied continuously to the back of the sheathing. Eight inches of dense-packed cellulose fill the cavity between the interior and exterior walls. The closed-cell foam was sourced from Canada and uses a fourth-generation blowing agent that has a global warming potential of 1. To reduce maintenance, DiPietro chose vinyl siding and PVC trim. The roof assembly is filled with enough blown-in cellulose to deliver an R-value of 90.

Because Passive House requires such attention to detail, DiPietro remained vigilant throughout the build. "Most contractors that come in are very excited to hear about all the details," he says, "but are less than enthusiastic about mastering air sealing themselves." The final blower door test came in at a very snug 0.19 ACH₅₀. His dream home will offer both exceptional comfort and very low energy consumption over the years—a true labor of love that he says was worth all of the effort.

Products

Windows & Doors

[Zola](#)

Ventilation

[Zehnder America](#)

Photos by Jason DiPietro

Passive House Metrics

Specific space heating demand	6.5 kBtu/ft ² /yr	20.4 kWh/m ² /yr
Specific space cooling demand	2.5 kBtu/ft ² /yr	7.8 kWh/m ² /yr
Source energy use intensity (EUI)	28.4 kBtu/ft ² /yr	89.5 kWh/m ² /yr
Air changes per hour	0.19 ACH ₅₀	

