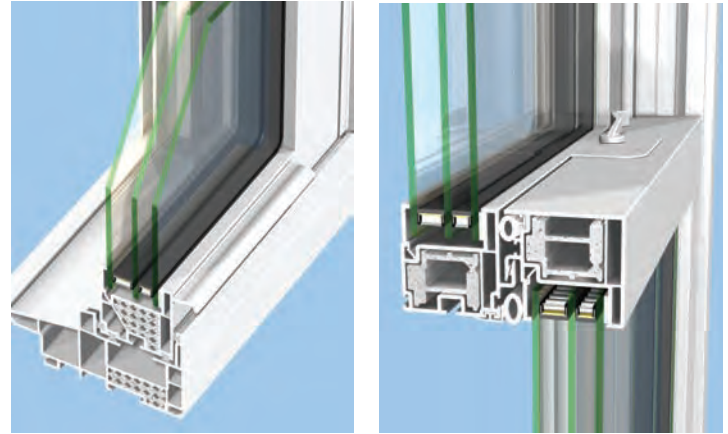


TRIPLE-PANE WINDOWS BALANCE PERFORMANCE AND COST

Windows in a deep double-stud wall can be installed in two locations: flush with the exterior wall or inset in the wall. These installations are often referred to as “outies” and “innies,” respectively. The ProHOME windows are installed as outies. This way, the Biebels are able to use a flanged window installed against the exterior sheathing and the flashing, trim, and siding details are the same as for a standard 2x6 wall. Using this standard approach, the framing crew is able to install each window quickly, and as a bonus the homeowner ends up with visually appealing deep interior window sills.

When the Biebels considered what type of windows to use on the ProHOME, they looked for high-performing windows at a price that would fit their affordable-house budget. They specifically wanted triple-pane windows. Although the difference in performance between double-pane (U-factor 0.25) and triple-pane (U-factor 0.19) windows is not that large compared to the R-45 walls, and though it’s possible to achieve net-zero with either window package, Tim prefers triple-pane windows for comfort. The windows are warmer to sit next to in winter, and, most importantly to him, they eliminate condensation on the interior surface.

The windows that they settled on for this project are from the Clara Starrett line by Mathews Brothers. They are triple-



Insulated frames. The vinyl frames of the Mathews Brothers windows are insulated, improving performance. The high-quality seals between the sashes help when it’s time for the blower-door test.

pane, double-hung windows with insulated vinyl frames that the Biebels have used on some of their custom homes. They’ve found the windows to be similar in cost to other triple-pane vinyl windows they’ve tried, but with a more rigid frame and better seals between the sashes so they are more airtight. The fact that Mathews Brothers is a local manufacturer also carried a lot of weight in their decision. Some net-zero projects rely on European-sourced Passive House–certified windows, but Tim prefers the local company because lead times are shorter when ordering local, and any ordering error or warranty issue can be easily and quickly fixed.



Zip System flashing. The window openings are flashed with a combination of Zip System standard flashing tape and their new stretch tape. The stretch tape makes a smooth transition through the corners so that the window flanges sit flat on the wall.

