

# Best Replacement Windows From CR's Tests

Some of the windows we tested held up to wind and rain better than others

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Shopping for replacement windows is no easy feat. To outfit your home with all-new windows, you'll probably work with a handful of dealers who will create a custom plan tailored to your home. Once you pick the winning bid, your windows will be measured, manufactured, and installed.

The person developing your quote is likely to steer you toward a particular window brand and certain energy-efficiency specs and styles. But how can you trust that they're suggesting a quality product?

Our tests found that even within the same brand of replacement windows, not all lines perform the same. To put these custom products through their paces, we ordered a double-hung window from a variety of manufacturers.

"We gave each manufacturer measurements for a 3x5-foot window so that we could simulate someone having their windows made—then we tested the windows for wind and rain resistance," says Rico de Paz, the project leader who oversees window testing at CR.

## How We Test Windows

Our previous window testing has shown that most windows stand up to simulated aging. So we focus our tests instead on how well a window can withstand the elements—specifically, wind and rain.

After installing the window in a wooden frame, test engineers seal one side and rig a specially made device that simulates wind velocity. They raise the air flow by 25 mph and 50 mph and measure air leakage with a flow meter. We run this test at 0° F and 70° F to evaluate whether the frames can hold up to the shrinking that can happen at low temperatures.

To test rain resistance, we simulate windblown rain by pelting the window with 5 gallons of water per square foot per hour. Windows that earn an Excellent rating in this test can withstand simulated wind up to 74 mph, or gale-force winds. The worst windows leaked at about 35 mph.

In our window ratings, you'll find replacement windows from Alside, Andersen, Atrium, Jeld-Wen, Pella, Reliablilt, Simonton, and Window World. You can also check out our replacement window

buying guide to get a feel for what features and styles you might encounter on your search, as well as how to find an installer and more.

Here is a sampling of some of the best windows from our tests.

## Vinyl Replacement Windows

Vinyl windows make up the largest part of the replacement window market. They don't need to be painted or stained, but you'll probably find fewer options when choosing colors and hardware.

### Pella 350 series

**CR's take:** This vinyl Pella product was one of the more expensive windows among the vinyl models we tested, but it was also one of the top performers. It earns an Excellent rating in our rain-resistance test, even with simulated gale-force winds—worth noting if you live in a rainy and windy area. It also earns top scores for its wind resistance at 0° F and 70° F. These windows have nine available dual-frame options, meaning you could have a more colorful exterior finish to spruce up your home's curb appeal.

### Simonton Reflections 5500

**CR's take:** Another great option for vinyl windows, especially for those who live in a cold climate, is the Simonton Reflections 5500. It earns an Excellent rating for wind resistance at 0° F, meaning the window's construction showed little change at such low temperatures. It's not as stellar, though, when it comes to high wind speeds with rain resistance.

## Wood Replacement Windows

Most wood window frames are made of solid wood. They're generally the most expensive type of window, and sellers typically offer many finish and hardware choices.

### Pella Lifestyle Series (Formerly 450 Series)

**CR's take:** The Pella Lifestyle Series window is the most expensive model in our ratings. It did exceptionally well resisting high winds at 0° F and 70° F in our tests. However, this window received a middling Good rating for rain resistance, meaning water leaked through the

window after we held the simulated wind speed between 40 and 60 miles per hour for several minutes.

## Composite Replacement Windows

Typically made of wood fiber and a thermoplastic resin, composite windows look more like wood than vinyl windows do, and they generally cost less than solid wood windows.

### **Pella Impervia**

**CR's take:** This composite window from Pella earns an Excellent rating for rain resistance, so you shouldn't have to worry about water

leaks during a rainstorm. It also does well at resisting wind at low and average temperatures. These windows have five single-color frame options, and four dual-color frame options with white as the default interior color.

### **Andersen A-Series**

**CR's take:** The A-Series composite window product from Andersen fares well on our rain-resistance test, earning an Excellent rating. Worth noting: This window is a few hundred dollars more expensive than the Pella Impervia above, and the two performed roughly the same in our tests. These windows have 11 painted exterior finishes and seven painted interior finishes.