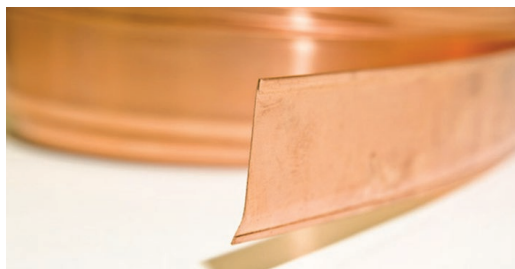


Q My clients own a seasonal vacation home built in the 1930s that has several pairs of single-pane double casement windows. The windows, which open to the outside, are original to the house and in good shape but leak in a driving rain and are drafty. What is the best way to weatherseal these windows that will preserve their appearance and function?

A *Steve Jordan, author of The Window Sash Bible and Storm Windows: A Comprehensive Guide and owner of a window repair business in Rochester, N.Y., responds:* Out-opening casement windows are often vulnerable to air infiltration and blowing rain because there is no trim (blind stop) around the perimeter opening; paired casements without a centered mullion increase the problem by adding a gap where the two sashes join—this gap may or may not have an astragal to deter air and rain. Storm windows are an option, but exterior ones would have to be removable to allow opening the casement during warm weather. While an interior storm sash helps with energy efficiency and exterior noise reduction, it will not prevent rain from blowing around the



Spring bronze is installed with the flat side on the interior and the sprung side facing the exterior so that the sash compacts the bronze as it closes.

perimeter where it may become trapped between the prime and interior storm sashes.

Casements are also prone to sagging that creates a gap at the latch-side head and sticking at the sill. Older casements were installed three ways: without weatherseals; with spring bronze weatherseals installed on site; or with complicated proprietary zinc or bronze seals installed at the millwork plant. There are various methods to weatherseal casements at the vertical jambs and head, but sealing at the sill/stool/bottom rail is tricky.

You didn't tell us if there were original weatherseals, so I assume there were none. We also don't know the construction details—the return edges could be a simple right angle, rabbeted, or even a convex-to-concave joint, so I'll discuss the simplest: a right-angle return. If the perimeter spaces between a sash and its frame are consistent all around and the sash is not sticking, proceed with spring bronze. But if the sash is sagging and racked, it may need to be squared up first. Square a racked sash by removing the glass or leaded panels, pulling it into square with clamps, and inserting two 1/4-inch white oak or mahogany pegs with glue through the joinery in each corner. Always measure squareness from inside the glass rabbet using a framing square, not from the outside perimeter, which may have been planed, altered, or worn over time.

Start by installing the spring bronze at the jambs and head and possibly at the bottom rail or sill. Sometimes minor planing is necessary; it's also traditional to run the bronze over the hinge leaves. As for sealing the sill, I usually remove the sash and determine what will work most efficiently—spring bronze, brush seals, or maybe a compression silicone bulb. On casements equipped with a metal sill trough, there is usually a bronze seal that diverts water into the trough where it runs out to the sill. But when there is no sill trough, there should be a wood drip mold to pitch the water to the sill and prevent it from entering at the stool. This mold includes a kerf on the underside to prevent water from running back to the inside.

There are other methods to weatherseal a casement including bulb seals and brush seals, but the traditional bronze is my go-to method. You can buy old-fashioned, high-quality 17-foot or 100-foot rolls of spring bronze from various online vendors, including Kilian Hardware, Accurate Machine Made, and Randy Surley Manufacturing Co. You can also find videos online that demonstrate installing and adjusting the spring bronze to get a tight fit.