

## Installation Issues

PUTTING IN  
PRODUCTS CORRECTLY



by John  
Lewis,

serves as technical director for the American Architectural Manufacturers Association in Schaumburg, Ill. He may be reached at [jlewis@aamanet.org](mailto:jlewis@aamanet.org). Mr. Lewis' opinions are solely his own and do not necessarily reflect those of this magazine.

“The window should be placed in the opening immediately after the sealant is applied and should be secured all around the full perimeter of the flange with corrosion-resistant fasteners, whose heads are wide enough to cover any pre-punched holes fully.”

# It's Fairly Simple

## Install It Properly and Prevent Leaks

Even the best-designed product can fail to prevent excessive water penetration if installed improperly. The solution focuses on the integrity of the “drainage plane” of the exterior wall, which consists of a weather-resistant barrier (WRB) installed behind the exterior cladding and coupled with flashing at the base of each wall. The WRB provides a path for rainwater that penetrates the cladding system to escape.

The essential principle of window installation is that the window units work together to form a fully integrated and effective drainage plane. Flashing applied correctly and sealant are needed to integrate the window with the drainage plane and divert water away.

### Installation Guidance

Installation quality is inherently variable, depending on the experience and expertise of the installer. Codes require following the manufacturers' instructions, which can vary in attention to detail and clarity.

To provide basic guidance on integrating the most common window-mounting configurations with the drainage plane properly in the most common construction situations, AAMA has developed two installation standards for residential construction up to four stories in height. One covers the installation of new windows with mounting flanges in a stud frame wall, while the second covers installation of replacement windows over the residual outer framing of an existing window. Both address the common configuration of windows with integral mounting flanges or fins and emphasize techniques for fully sealing the window to the WRB. Note that manufacturer's instructions and/or local code requirements can supersede these guidelines, particularly with regard to situations with requirements for egress, safety glazing and specified minimum grades of WRB materials.

AAMA 2400-02, *Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction*, recommends two

different installation methods. Both are similar, except that in one the flanged window is mounted to the rough opening and the jamb flashing applied over the flange and WRB, while in the second, the flashing is applied first and the window flange sealed to the flashing. If the WRB was not applied prior to installation, the sill flashing should not be fully sealed to the sheathing, so that the WRB can be slipped up later and under the flashing in a weatherboard fashion (upper pieces overlapping the lower).

The window should be placed in the opening immediately after the sealant is applied and should be secured all around the full perimeter of the flange with corrosion-resistant fasteners, whose heads are wide enough to cover any pre-punched holes fully.

### Replacement Windows

AAMA 2410-03, *Standard Practice for Installation of Windows with an Exterior Flush Fin over an Existing Window Frame*, covers common retrofit installations in which the mounting fin of the new window covers the exterior of the pre-existing window's frame.

Careful inspection of existing conditions assumes a prominent role in ensuring weather-resistant installation of replacement windows. Sufficient sealant should be used to ensure a proper seal between the mounting surfaces of the old frame and the flush fin of the new window, taking care not to seal up existing weep holes at the sill. Screws used to attach the new window should penetrate the head and jambs of both the new and old windows and anchor into the surrounding wall framing. A secondary seal should be applied between the fin and the adjacent wall materials around the perimeter of the flush fin.

Finally, expanding aerosol polyurethane foam should be used at the interior to seal between the window frame and the rough opening.

To obtain copies of AAMA 2400-02 and AAMA 2410-03, visit the Publication Store of the AAMA website, [www.aamanet.org](http://www.aamanet.org). 