

FMA/WDMA 250-10

FMA/WDMA 250-10 Standard Practice for the Installation of Non-Frontal Flange Windows with Mounting Flanges for Surface Barrier Masonry Construction for Extreme Wind / Water Conditions



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Foreword: The purpose of this standard practice is to present installation best practices for non-frontal flanged windows, with integral and applied mounting flanges, to mitigate the risk associated with the limitations of surface barrier masonry construction.

This standard practice includes a procedure for the installation of non-frontal flange windows into buildings with a surface barrier (masonry/concrete) wall construction with a height of no more than three stories. Wood frame construction is not included in this document. Detailed instructions for wood construction when used on second and third story construction of a masonry home are covered in FMA/AAMA 100-. Detailed instructions for installation of frontal flange windows in surface barrier masonry construction are addressed in FMA/AAMA 200-.

The techniques demonstrated in this standard practice have been developed specifically to restrict liquid water from entering through the masonry opening and/or around the perimeter of the window frame. The major emphasis is focused on sealing the surrounding area of the window's masonry opening in such a manner as to restrict liquid water from penetrating the wall at the window opening. This standard presumes a drainage plane is not present behind the façade (surface barrier system).

This standard practice provides details for both a "barrier installation", such that there is a full perimeter seal at the exterior interface between the window and the wall cavity (under the flange) and a "drainage installation", such that there is a discontinuous seal at the exterior sill interface to allow drainage from a 'sill pan' flashing system. In general, drainage installations should be utilized for systems that are susceptible to high moisture exposure, moisture sensitive materials, and potential leakage around the interface. It is essential that a robust air / water seal around the interior perimeter of the window / wall cavity interface is achieved in drainage installations. However, there are cases where barrier installations can be utilized successfully and also can be more practical, particularly in such cases where the robust interior air/water seal is difficult to achieve.

Cautionary Statement: Surface barrier construction presents some unique challenges for climates that experience frequent and/or heavy rainfall. It is extremely difficult to obtain and maintain a continuous water barrier over the entire building envelope. In addition, once water breaches the barrier and is absorbed by the construction material, the barrier inhibits the ability for the wall to dry out rapidly. Therefore, a water managed/drainage plane construction is better suited for areas that experience heavy and/or frequent rain. Water that gets past the exterior cladding encounters a secondary water resistant barrier and drains down the cavity where it is flashed to the exterior.

1. Scope

1.1 This standard covers the installation of non-frontal flanged windows in new construction surface barrier masonry wall buildings of no more than three stories in height. It is expected that that all referenced components shall comply with all applicable code requirements in force at the time of the installation.

1.2 To simulate extreme exposure conditions, representative installation methods described in this standard practice have been water tested up to a design pressure of 575 Pascal's (12 psf) water test pressure, using the ASTM E547 water test (ASTM E331 is an acceptable alternative). This does not advocate field or lab testing to those levels as a requirement for this standard practice.

1.3 This practice applies to non-frontal flanged windows which employ an integral or applied mounting flange that is attached and sealed to the window perimeter frame and is designed as an appendage that will cover a previously-installed buck and/or integrate with a pre-formed sill.

1.4 This standard covers the installation process for windows from pre- to post-installation. It does not include fabrication techniques that would be required to join individual windows to each other, either horizontally or vertically. It does not cover any other factory or field fabrication which joins or combines multiple windows. The instructions for mulling windows together and any accessories required must be supplied by the window manufacturer.