

STEPPED FLASHING

Introduction

Stepped or "waterfall" flashing is typically used when brick masonry intersects an adjacent sloping surface or when it surrounds a curved or sloped wall opening. Common examples are at bay window locations, at second story walls over lower roofs and at arch wall openings. This *Brick Brief* provides isometric details for stepped flashing installation at these and similar locations. Information on the selection of flashing materials can be found in *Technical Notes 7A*.

Location and Options

Arches. A common area where stepped flashing may be considered is over a segmental or semicircular arch. The best way to flash this opening, from the point of providing complete flashing, is to curve the flashing around the opening. In reality, this is often too difficult or impossible to consider. Instead, a long piece of flashing is often located one or two courses above the top of the opening. This top flashing should extend 6 in. (150 mm) beyond the opening, should have weep holes along its length and end dams at each end. Such flashing is often called tray flashing.

In addition, the areas of brickwork below the tray flashing and above the opening shaded in **Figure 1**, must be flashed to prevent penetrating water from reaching the interior of the structure. By using stepped flashing as shown in **Figure 2**, flashing can be provided closer to the opening.

Bay Windows. A similar situation arises at bay windows. The rough opening in the brickwork is rectangular, but the roof over the bay is usually sloped. See **Figure 3**. One of two methods should be used to prevent water penetration to the interior. Both methods require tray flashing placed one or two courses above the top of the bay and lapped with counter flashing on the roof. To pre-

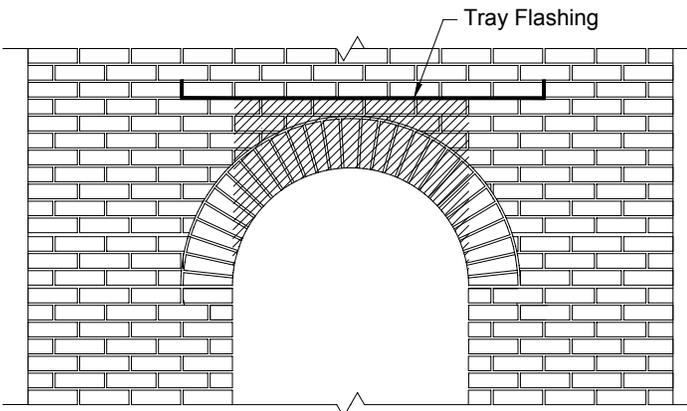


Figure 1
Arch Opening

vent water which penetrates the triangular areas around the bay from reaching the interior, one alternative is to use stepped flashing as shown in **Figure 4**. (This detail is

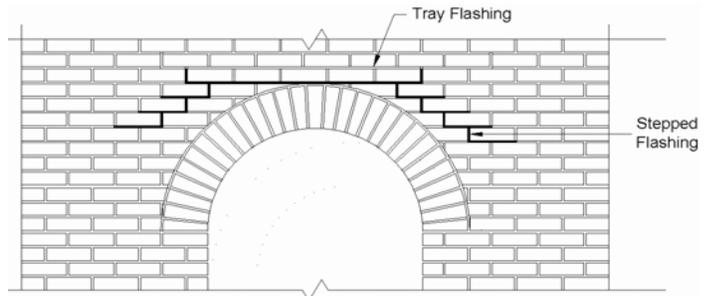


Figure 2
Stepped Flashing at Arch

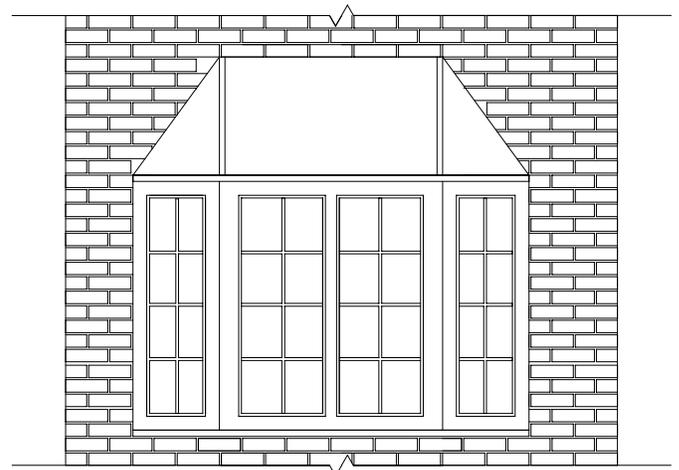


Figure 3
Bay Window Elevation

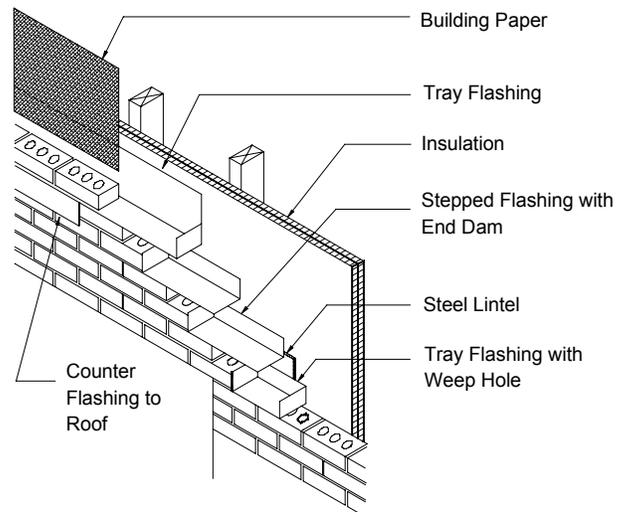


Figure 4
Stepped Flashing at Bay Window

appropriate for other stepped flashing locations as well.) Alternately, gutter flashing placed at the base of the brick masonry, directly over the lintel supporting the brickwork, may be used to capture any water penetrating below the top tray flashing. Water collected on the gutter flashing is drained by weep holes at each end. **Figures 5 and 6** illustrate this alternative.

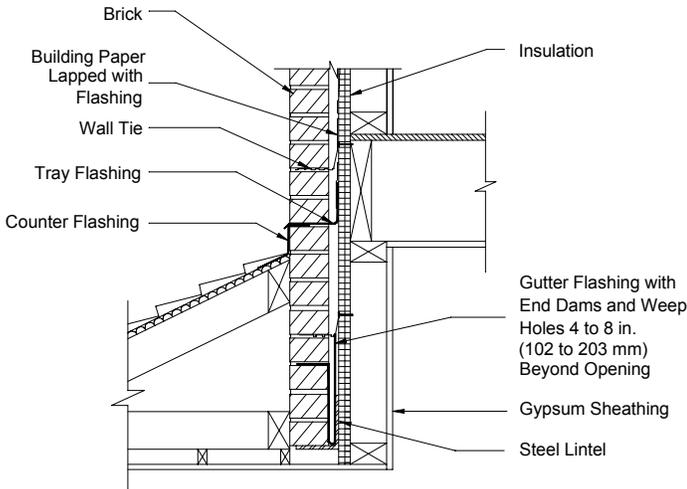


Figure 5
Section at Bay Window - Gutter Flashing

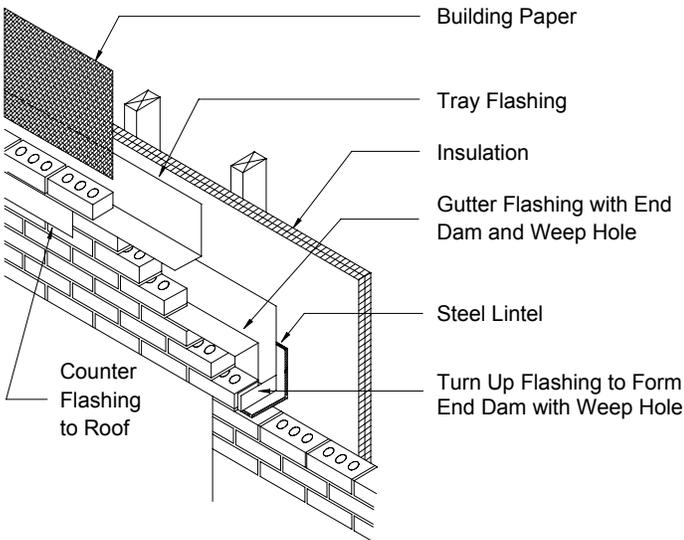


Figure 6
Gutter Flashing at Bay Window

Second-Story Brickwork. A pitched roof over a one story space adjacent to a second story brick façade occurs commonly with attached garages. If the brick of the second story are supported on a horizontal steel lintel, the configuration illustrated in **Figure 7** presents a solution similar to that with bay windows. Stepped flashing is usually preferred to gutter flashing due to the large area being drained. In some cases, the brick may be supported on a steel lintel that is sloped to follow the pitch of the roof. In this situation, sliding of the brickwork along the lintel may be a concern. Flashing located directly on the lintel may aggravate this problem. Thus, stepped flashing is also preferred in this case.

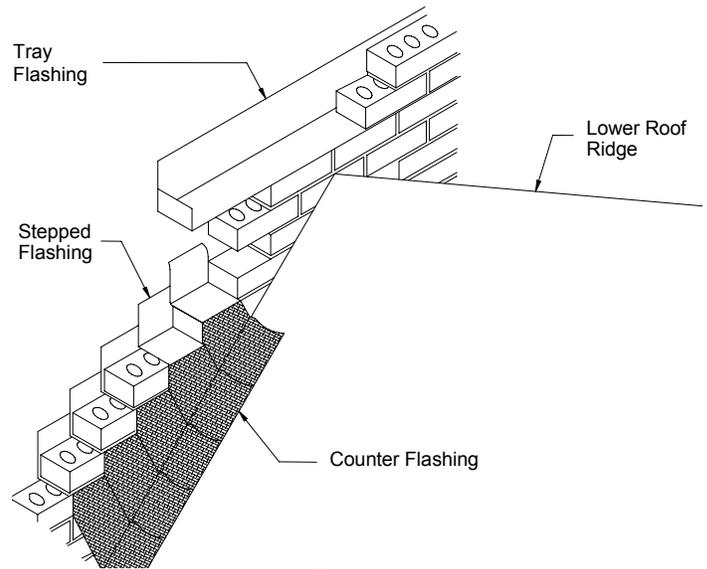


Figure 7
Stepped Flashing at Lower Roof

Design Details

A combination of tray flashing and stepped flashing should be used in areas where brick masonry intersects an adjacent sloping surface or when it surrounds a curved or sloped wall opening. Stepped flashing may be placed in every course or every course of brick following the bond pattern and stepping down around the opening or sloped surface. Stepped flashing in higher courses should overlap the layer of stepped flashing below by 4 in. (102 mm). To form a step, the end nearer the opening should be turned up to form an end dam, and the opposite end laid flat. In this way water draining from above will cascade off the open end onto the stepped flashing below. The lowest piece of flashing should form a tray with end dams at both ends and a weep holes to direct any water collected out of the wall.

Brick Briefs are short discussions of a particular topic. The information contained herein is based on the experience of Brick Industry Association technical staff and must be used with good technical judgment. Final decisions on the use of this information must rest with the project designer and owner.