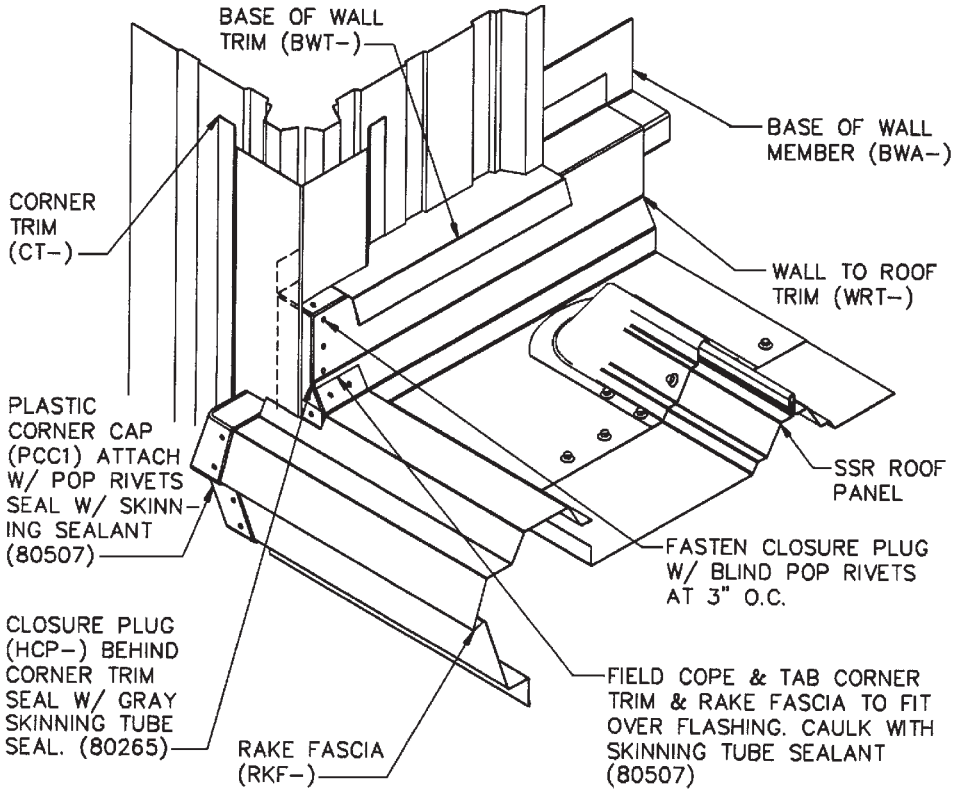

FIGURE 6.26 Wall-to-roof transition at rake. (*VP Buildings.*)

slope. A detail of nonvented fixed ridge is shown in Fig. 6.36 and of vented floating ridge in Fig. 6.37. As can be seen, the difference between the two details lies not only in the degree of roofing fixity, but also in venting or a lack thereof. Both fixed and floating ridges can be provided with or without venting.

The floating ridge detail of Fig. 6.37 shows a vented version, which allows warm air collecting at the peak to escape through a louvered soffit. As discussed in Chap. 8, roof ventilation is important in ensuring comfort for the occupants of metal buildings.

A detail of vertical-seam metal roofing fixed at the eave is shown in Fig. 6.38. To illustrate an additional point, the detail is drawn for the high eave of a mono-slope roof near an adjacent high ("head") wall. Since the roof at the eave is assumed not to move, fixed L-shape flashing is used here. The flashing is attached not to the vertical seams, which are too widely spaced and too narrow for that, but to the closure pieces fitted and fastened between the seams.

As discussed in Chap. 5, the eaves can rarely provide a complete restraint for the roof assembly. Accordingly, we prefer that some roofing movement be accommodated even at the "fixed" eaves by a W-shaped or curved flashing. A good example of curved flashing is shown in Fig. 6.39, which illustrates how a floating high eave can be constructed with vertical-seam roofing.

Slightly different details are used at "hard" (masonry or concrete) end walls. Depending on whether the walls are load-bearing or not, the roofing and flashing details may have to accommodate not only horizontal, but also vertical movements. Two representative details are shown in Fig. 6.40.

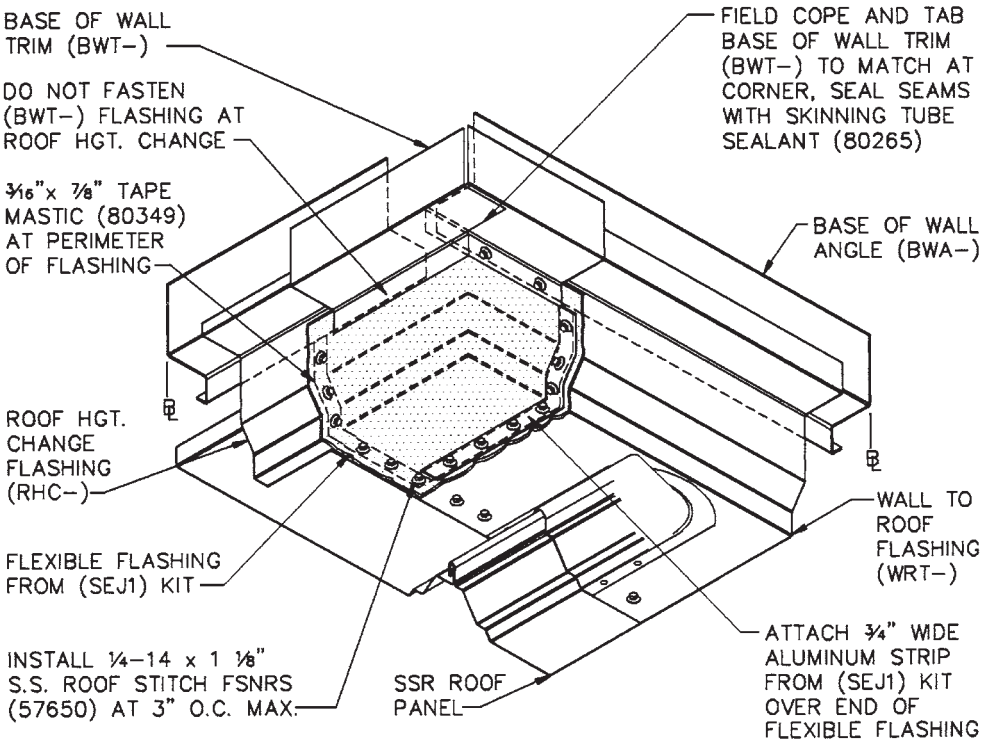

FIGURE 6.27 Wall-to-roof transition at inside corner. (*VP Buildings.*)

Figure 6.40*a* shows a condition where the vertical-seam sheet ends in a close proximity to the end wall, while in Fig. 6.40*b* the roofing is cut off-module.

6.6 INSULATED STRUCTURAL PANELS

As mentioned in our discussion of through-fastened metal roofing and examined in more detail in Chap. 8, insulation issues traditionally have not been of prime importance to the suppliers of metal building systems. However, the situation is changing fast. The traditional methods of insulating metal buildings may no longer comply with the energy-saving mandates imposed by the latest code provisions. In the "hourglass" method common in the past, fiberglass insulation is draped over the purlins and squished by the roofing at the purlin supports. This "short-circuiting" greatly diminishes the overall thermal performance of the roof.

Some of the newer and better methods of insulating metal buildings include fiberglass insulation systems with thermal blocks (Chap. 8), rigid insulation, and insulated (sandwich) structural panels. The advantages of insulated panels lie in the predictable insulation performance, finished bottom surface, and, with some designs, the ability to provide purlin flange bracing. These panels have been used in cold storage buildings for years, and now they are becoming popular in many other applications as well.