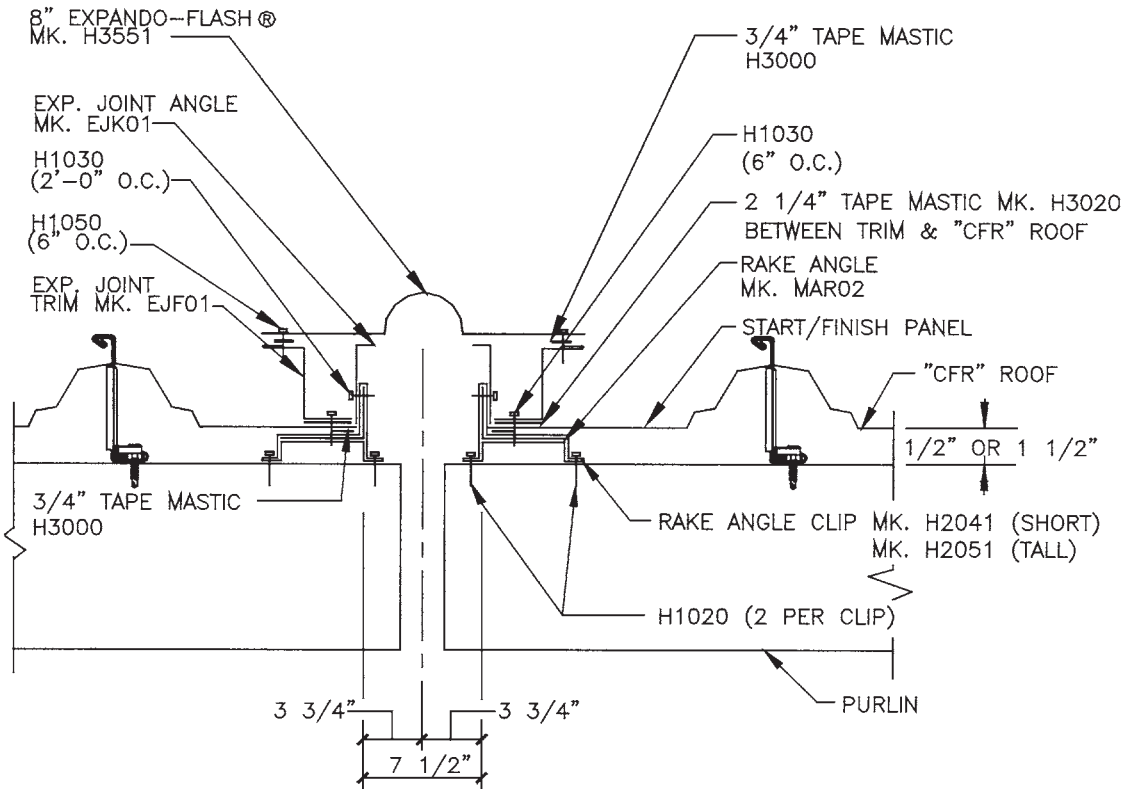

FIGURE 6.30 Details of expansion joint in building with structural roofing with trapezoidal profile. (*Nucor Building Systems.*)

The insulated structural panels typically span between the purlins and are attached to them with concealed clips. To reduce air and moisture leakage through panel-to-panel sidelap joints, the better products have intricate double tongue-and-groove edges (Fig. 6.41). In addition to illustrating a panel-to-panel joint, Fig. 6.41 shows a wall-to-roof joint at the rake with preinsulated wall panels. With the unprotected panel edges shown here, properly installed flashing and sealants are essential for weather tightness.

As with other types of roofing, the transition to a high wall at the eave should allow for panel movement. The already mentioned W-shaped or curved flashing can help; one such detail is shown in Fig. 6.42.

6.7 ARCHITECTURAL METAL ROOFING

In our definition, architectural roofing is the roofing that requires a substrate for support. The substrate typically consists of plywood or metal deck, but other products, such as oriented-strand board, wood planks, and cementitious wood fiberboard, are also used occasionally. With properly designed attachments, the substrate can provide lateral bracing for purlins and serve as a diaphragm. Architectural roofing is usually attached to the substrate with concealed clips, rather than being

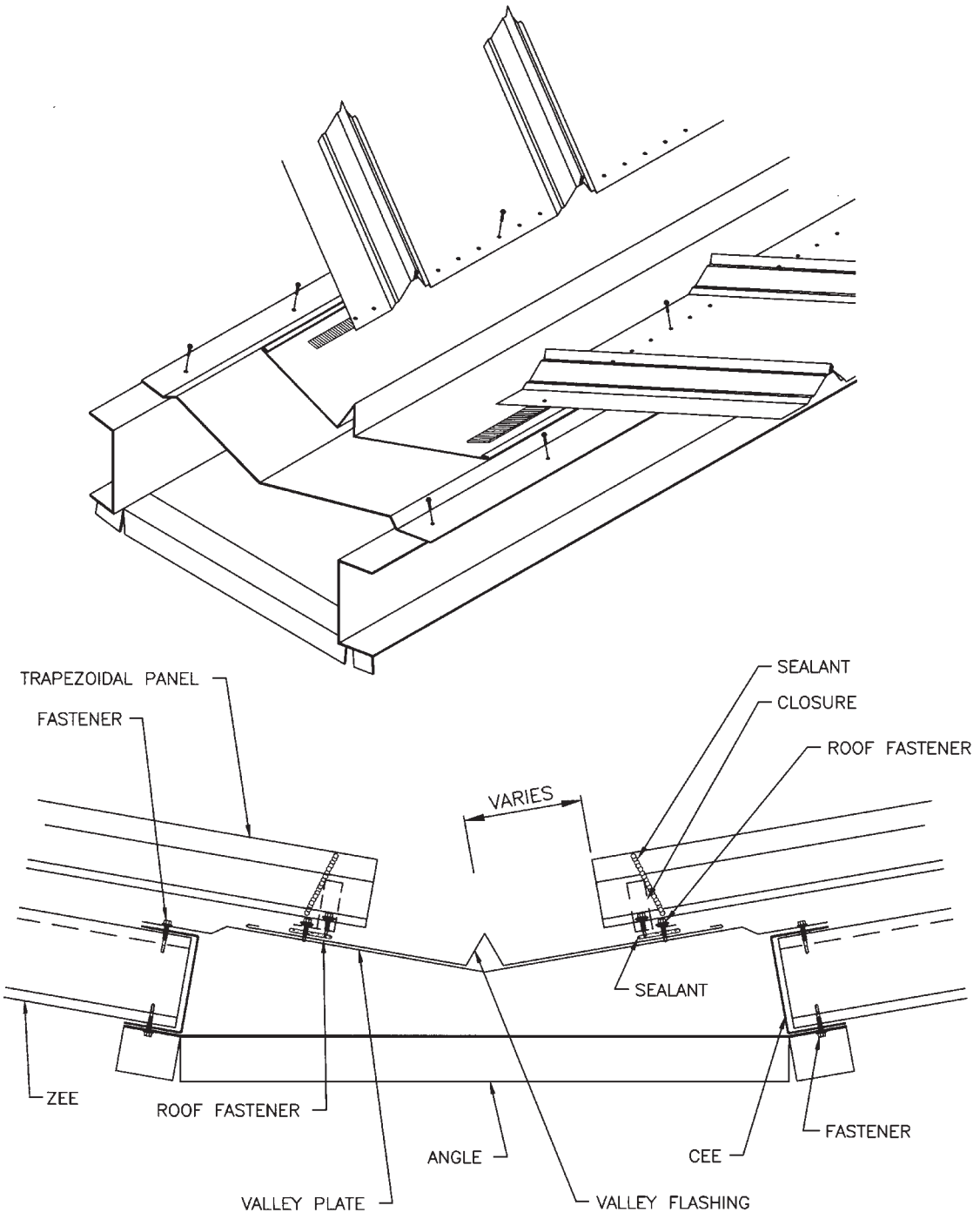

FIGURE 6.31 Details of standing-seam roofing with trapezoidal profile at fixed valley. (*MBMA.*)