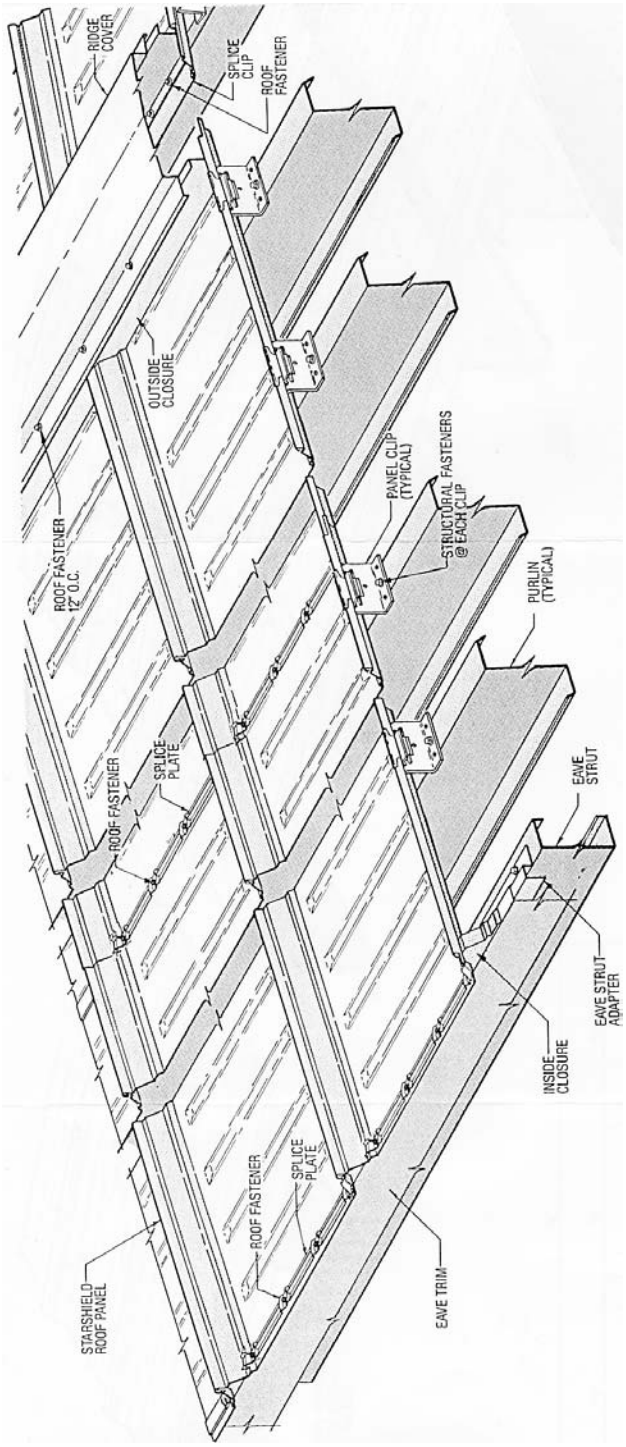

FIGURE 6.11 Assembly of standing-seam roofing with trapezoidal profile, concealed clips, and purlins. (*Star Building Systems.*)

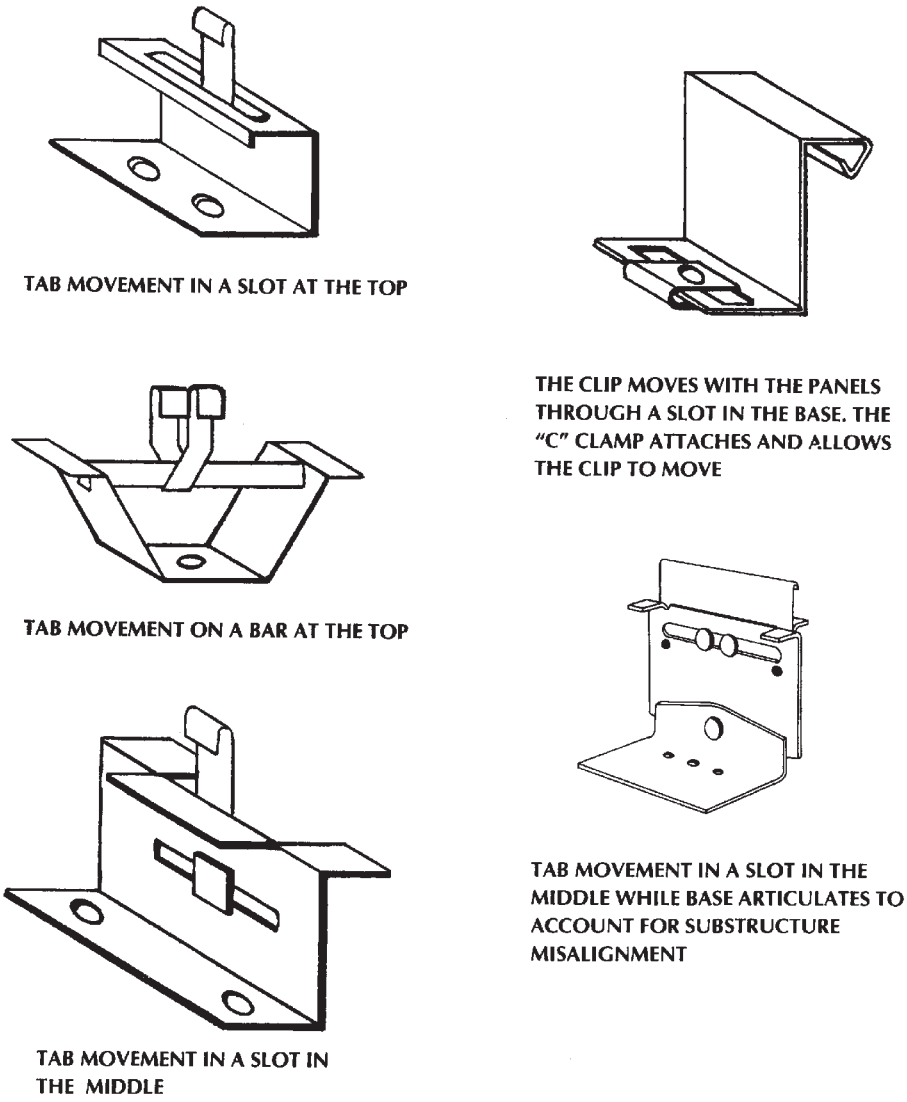

FIGURE 6.12 Common designs of standing-seam roof clips. (*From Nimtz,*[18] *courtesy of Metal Architecture.*)

partly because it is better able to accommodate thermal expansion and contraction of the roofing perpendicular to the slope (Fig. 6.14). Spacing of the corrugations and width of the panels vary among the manufacturers. Some panels with widely spaced seams are provided with cross flutes approximately 6 in on centers for better rigidity and walkability, as well as for reduction of wind vibrations and noise. An example of the properties and configuration of standing-seam panels may be found in Fig. 6.15.

After corrugated sheets are seamed and engaged by clips, the individual sheets become parts of the metal roof membrane that moves as a unit with temperature changes. The movement capacity of the clips and the expansion details restrict the maximum uninterrupted roof width to about 200 ft, beyond which stepped expansion joints are needed. A typical detail of the stepped roof expansion joint is shown in Fig. 6.16.