

Figure 15-9 Brick and block coursing layout. (From Beall, *Masonry and Concrete for Residential Construction*, McGraw-Hill Complete Construction Series, 2001.)

Corners and intersections in masonry walls can be critical both structurally and aesthetically, and proper planning can facilitate construction of these elements. When masonry shear walls are used to transfer wind loads and seismic forces, they must be securely anchored to the intersecting walls with steel reinforcing, and the coursing and layout of the units affect the ease with which the steel can be placed. Corner intersections are often points of high stress, and must also be aesthetically pleasing from the exterior if the masonry units are to be left exposed. The use of masonry pilasters as integral stiffening elements in a wall must also be carefully considered in the layout, and dimensions properly set so that the pilaster fits in with the regular coursing. The examples in *Figs. 15-10 through 15-13* illustrate various common methods of detailing.

The laying up of masonry walls is a very ordered and controlled process. Units must remain in both vertical and horizontal alignment throughout the height and length of the structure in order for the coursing to work out with opening locations, slab connections, anchorage to other structural elements, and so on. Laying out of the first course is critical, since mistakes at this point would be difficult, if not impossible, to correct later. The first course must provide a solid base on which the remainder of the walls can rest.

After locating the corners of the structure, it is a good idea to check dimensions by either measuring or actually laying out a dry course of units. Chalk lines are used to establish initial alignment on the foundation, and string lines are used once the walls are up in the air. The base course at the foundation must always be laid in a full bed of mortar even if face shell bedding (for hollow brick or CMUs) is to be used in the rest of the wall.

Corner units are laid first, and walls worked from outside corners and openings toward the center. The corners are usually built four or five courses higher than the center of the wall, and as each course is laid, it is checked for level, plumb, and alignment. For filling in between the corners of a wall, a string line is stretched from end to end and the top outside edge of each unit is laid to this line. Use of the mason's level between corners is then limited to checking the face of the units to assure that they are in the same plane. This speeds construction time and assures greater accuracy.

A story pole or corner pole is used to simplify the accurate location of course heights. Story poles are generally of metal with adjustable coursing scales attached. The poles must be rigid enough to resist bending when a

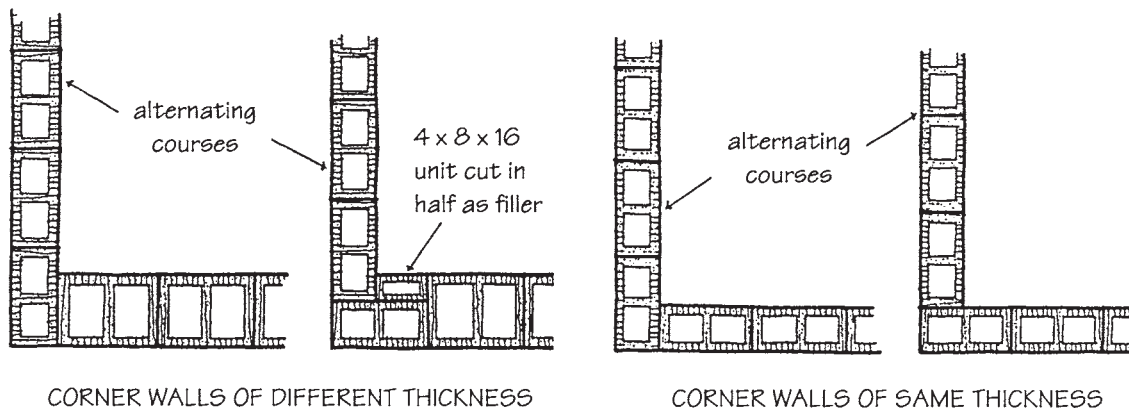


Figure 15-10 Modular CMU corner layouts.