units has been introduced to increase productivity on the job. Both the 12-in.-high × 16-in.-long and the 8-in.-high × 24-in.-long units have 50% larger face area. To compensate for the additional size, lighter-weight aggregates are used to yield an 8-in.-thick unit weighing only 33 lb (less than a normal-weight 8 × 8 × 16-in. block). Each of the larger units can be laid as easily as a standard block, but covers 50% more wall area. These oversize units, however, are not typical. Size variation in most concrete block is limited to 2-in. incremental widths of 4 to 12 in., with a standard face size of 8 × 16 in. (*see Fig. 4-8*). Half-lengths and half-heights are available for special conditions at openings, corners, and so on. A number of special shapes have been developed for specific structural functions, such as lintel blocks, sash blocks, pilaster units, and control joint blocks (*see Fig. 4-9*). Terminology is not fully standardized, and availability will vary, but most manufacturers produce and stock at least some of the more commonly used special items. In the absence of such shapes, however, standard units can be field cut to accommodate many functions.

Standard utility block or "gray block" is not typically used as an exterior finish. Gray block is most often used as the backing wythe in masonry cavity walls and as interior partitions and foundation walls. If it is exposed to the weather, it should be protected by an acrylic or cement-based paint or stucco finish.

Architectural concrete block is made in colors, patterns, and textures more suitable for exterior finishes, but it absorbs water as readily as gray block. Integral water-repellent admixtures and field-applied water repellents are used to reduce absorption, but these treatments cannot protect against moisture intrusion through cracks or bond line separations at the mortar joints. Any wall with an exterior masonry facing must be designed to effec-

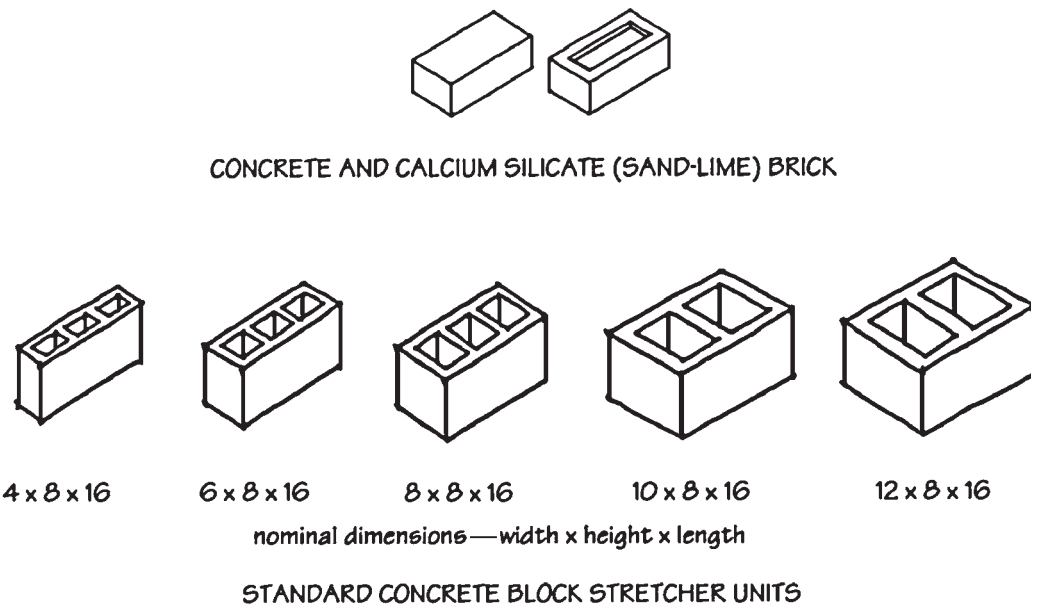

Figure 4-8 Basic concrete masonry unit sizes and shapes.

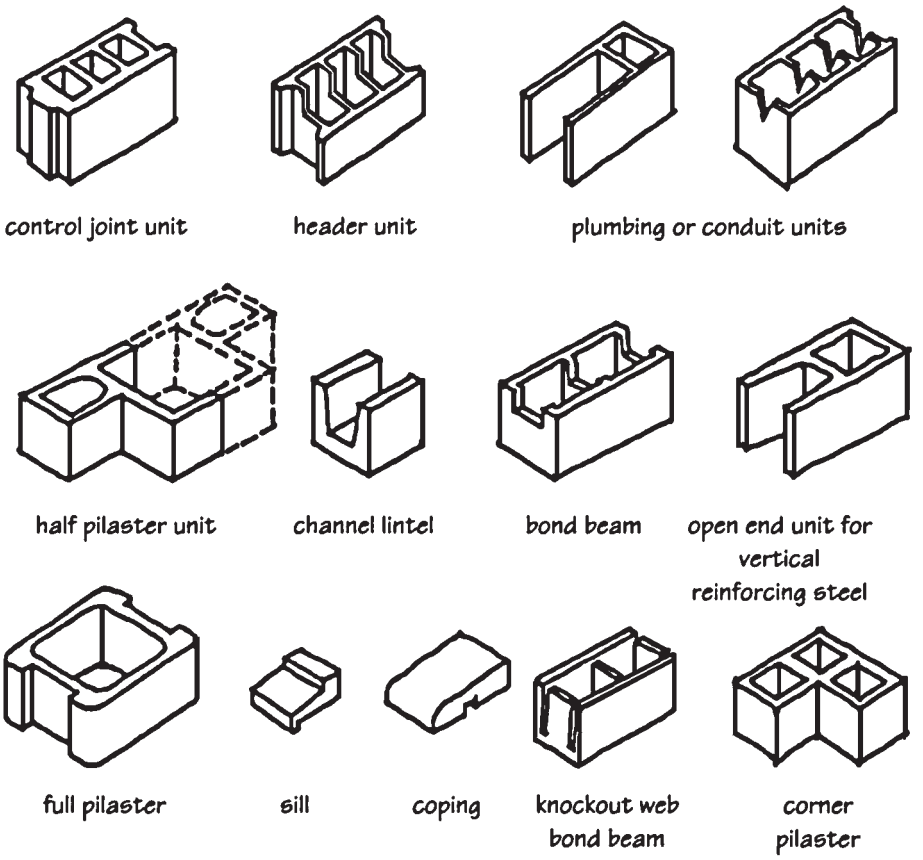

Figure 4-9 Special-shape CMUs.

tively drain moisture that penetrates the wall. When used in a properly designed drainage wall, architectural block provides a unique appearance, with texture and scale very different from brick. Not all of the patterns and textures shown in *Fig. 4-10* are available from every block manufacturer. The most common architectural blocks are the split-face, ribbed and burnished (*see Fig. 4-11*).

4.6 SPECIAL UNITS

Proprietary specialty units include flashing blocks, angled units for making 45° corners and intersections, and special block for laying curved walls. Another proprietary design incorporates channels in the block webs to accommodate reinforcing bars and hold them in place without the need for spacers. Still others offer cornice, sill and water table units, inspection blocks for grouting, angled keystone block for arches, and others (*see Fig. 4-12*). Specialty blocks are usually patented designs and may not be available in all areas. Custom CMU designs were produced when architectural concrete block were first being introduced to the market (*see Figs. 4-13 and 4-14*). The cost of custom-designed units, however, is prohibitive on all but the largest projects where the quantity of units needed can offset the cost of producing custom molds.