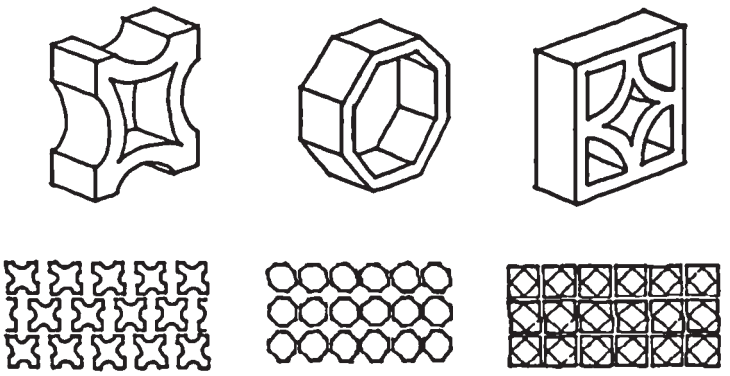

Figure 3-25 Typical clay screen tile shapes and patterns.

- **Grade SE**—uniformly high resistance to disintegration by weathering or by freezing or thawing in the presence of moisture
- **Grade ME**—moderate and somewhat non-uniform resistance to weathering (good durability in areas of mild to moderate exposure, but not adequate for severe exposures)
- **Grade NE**—interior use only

- **Type STX**—minimum size variation
- **Type STA**—characteristic architectural effects resulting from larger degree of size variation

Grade	Maximum Water Absorption by 1-Hour Boiling (%)	
	Average of 5 Tests	Individual Unit
SE	10	12
ME	14	16
NE	20	24

Specified Dimension (in.)	Maximum Permissible Variation from Specified Dimensions (±in.)	
	Type STX	Type STA
4 and under	3/32	1/8
Over 4 to 6	1/8	3/16
Over 6 to 8	5/32	1/4
Over 8 to 12	7/32	5/16
Over 12	9/32	3/8

Figure 3-26 Requirements for structural clay non-loadbearing screen tile. (*Tables copyright ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428. Reprinted with permission.*)

Sometimes referred to as ceramic veneer, architectural terra cotta is an enriched clay mixture fired at high temperatures to a hardness and density not obtainable with brick. Glazed units are durable and weather resistant, and provide an almost infinite range of colors that will retain their sharpness and clarity for the life of the product.

Architectural terra cotta was originally used as a loadbearing element in multi-wythe walls, but in the late nineteenth and early twentieth centuries, it gained popularity as a cladding material, particularly for structural frame–type buildings. It was lightweight, relatively inexpensive, and particularly adaptable to rich ornamental detailing. Architectural terra cotta figured prominently in the work of H. H. Richardson, Cass Gilbert, Louis Sullivan, and Daniel Burnham, among others, and was a key element in such architectural

idioms as the Chicago School, the Gothic and Romanesque Revival movements and the Beaux Arts style. Though architectural terra cotta is one of the most prevalent materials from this period, many are unaware of its presence because it frequently masqueraded as stone. Building owners and architects alike are often surprised to discover that what they presumed to be a granite, limestone, or brownstone facade is actually glazed terra cotta.

Today, terra cotta is produced for both historic restoration and new construction. Flat field panels, the basic units of veneer systems, must have scored or dovetailed backs to form a key with the mortar. Accessory pieces such as copings, sills, and projecting courses are also die formed, and may be simple or elaborate in profile. *Figure 3-27* shows the stock shapes used to create the cornice and base courses on the Best Products Corporate Headquarters Building. The backs and webs of units, as shown, are often cut at the factory or broken out at the job site to accommodate mechanical fasteners. Decorative balusters and hand-molded ornamental shapes are also available. Reproduction pieces can be made by taking a plaster cast of existing features and then hand-packing wet clay into a mold made from the cast.

There are no ASTM standards for terra cotta, but units should meet the minimum requirements of the "Standard Specifications for Ceramic Veneer," and "Standard Methods for Sampling and Testing Ceramic Veneer" published by the Architectural Terra Cotta Institute (1961). Glazes, however, are covered by ASTM C126, *Standard Specifications for Ceramic Glazed Structural Clay Facing Tile, Facing Brick and Solid Masonry Units.*

3.4 PROPERTIES AND CHARACTERISTICS OF FIRED CLAY PRODUCTS

Physical properties and characteristics of masonry units are important to the architect only insofar as they affect performance and appearance of the finished wall or structure. The major building codes in the United States rely primarily on ASTM standards and requirements of the American National Standards Institute (ANSI) for minimum property specifications. These deal mainly with compressive strength, absorption, and saturation coefficients as indicators of acceptable performance (*see Fig. 3-28*).

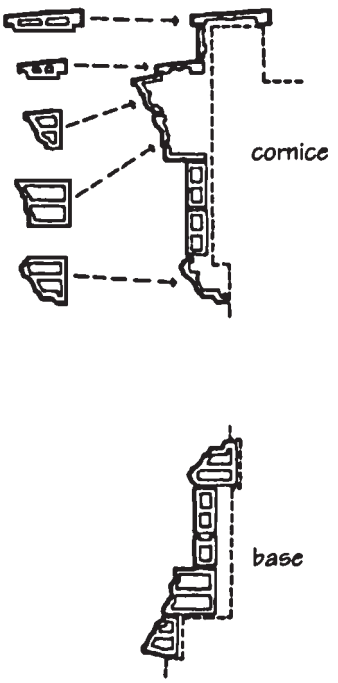

Figure 3-27 Stock shapes of extruded terra cotta used to form cornice and base courses at Best Products Corporate Headquarters.