

CERAMIC & STONE TILING



**THIRD
EDITION**
UPDATED AND
EXPANDED

TILE CHARACTERISTICS

There are several types of ceramic tile and many ways to categorize them. The built-in properties can make one better than another for a particular installation.

Firing and Glazes

When most tile is first formed, it has to dry enough to become stable. Then it goes into a kiln at temperatures ranging from about 1,800°F to 2,500°F. Tiles fired at lower temperatures generally are more porous and have softer glazes than tiles fired at higher temperatures.

These surface coatings can be used to add color and decoration, and to protect the tile body. Color is commonly included in a mixture of pigments that is added before the tile is fired or applied to a hardened tile and bonded with a second firing. Glazed tiles range from a high-gloss to a dull matte finish.

Water Absorption

There are four basic categories of tile rated by how much water they absorb. More-porous tiles are generally softer

and absorb more water. Less-porous tiles generally are harder and may be more expensive than more porous tiles.

Nonvitreous tile absorbs about 7 percent or more water; semivitreous tile absorbs between 3 percent and 7 percent water; vitreous tile absorbs between 0.6 percent and 3 percent water; and impervious tile absorbs 0.5 percent or less water. Generally, the longer the firing time and the higher the firing temperature, the more nonporous (or vitreous) the tile. Vitreous and impervious tiles include ceramic and glass mosaic varieties, as well as porcelain tiles. Don't use nonvitreous or semivitreous tiles outdoors in cold climates. Water trapped in the tile body will alternately freeze and thaw, cracking the tile.

Tile porosity becomes important in the choice of tiles for wet conditions such as a tub surround because water absorbed by porous tiles can harbor bacteria and eventually penetrate the substrate, loosening the tile bond.

Tile Selection

When you visit your tile dealer, the ceramic tile probably will be divided into basic categories of wall, floor, and ceramic mosaic tile. There are also many specialty tiles. (See pages 18 to 33 for more on tile materials.)



Tile can connect one area of the home to another, such as shown in this bathroom and adjoining laundry room.