



## What's Underfoot: Selection and Care of Hard Floors<sup>1</sup>

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Hard floor materials can be natural or manufactured, structural or applied, glazed or unglazed. Some natural hard floorings include flagstone, slate, and marble. Manufactured materials include flooring such as brick and ceramic. Terrazzo, concrete and "poured" floors are also manufactured floors. Hard-structured floors can be formed in place or, in the case of ceramic tile or masonry, installed with grout or mortar on site. Applied hard floors are usually thinner than structural floors and are referred to as veneers or tiles.

### Selection and Care of Hard Floors

To select the type of hard flooring that best suits your needs, consider each of these points.

**Traffic.** What if the area will receive a lot of traffic? The heavier the traffic the more durable the material should be.

**Location.** What area will it be used in, and what types of dirt and stains will it receive? Will you have tracked-in dirt or a greasy film from cooking spills or eating?

**Noise.** The noise level is important to consider.

**Comfort.** Comfort is very important if you stand or walk for long periods of time in a specific area. It may not be so important in a foyer or a hallway!

**Furnishings.** Consider the color, pattern, scale and theme of the area when you select your flooring.

**Maintenance.** Be realistic about your maintenance plan. Do you want to give a minimum amount of care or are you willing to select a floor that will require special care?

**Installation.** Will a professional install the floor, or will it be a do-it-yourself project? Some floors are easier to install than others.

**Subflooring.** Consider if the subflooring is damp, or has any irregularities such as cracks, hollows and bumps. Can the floor support the weight of the flooring material? Consider the weight of your flooring material with the building structure that will support it.

**Cost.** Consider the installation cost, plus other materials involved in the job. What is the life

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expectancy of the material compared with the total cost?

## Hard Flooring Materials

The tiles can be used in any area including the kitchen, foyer, sunroom and bath. There are certain ceramic tiles that are to be used only for floors or only for walls. Make sure you get flooring tiles for the floor, because wall tiles will not be as durable for a floor application.

Wipe tiles with a spray-type cleaner or vinegar and water solution (4 parts water to 1 part vinegar). Rinse thoroughly with clean water and buff tiles to prevent streaking. To clean unattractive grout, apply full-strength liquid household cleaner or powdered household cleaner that has been made into a paste. Let it stand for five minutes then scrub with a stiff brush. Rinse and dry. With badly-stained or moldy grout, use a solution of liquid chlorine bleach (3/4 cup per gallon of water). Apply solution with a cloth or sponge to prevent splattering on clothes or nearby fabric. Let it stand for a few minutes, then rinse and dry. If tiles are not glazed, apply a coat of water-based wax for protection.

**Clay Tile.** The most common types of clay tile used for flooring are: 1) quarry tile, 2) ceramic tile and 3) Mexican tile.

**Quarry Tile** is a baked clay product, usually found in unglazed or natural form for home use. Because it is extremely porous, it requires a vegetable oil-based sealer for stain resistance. Quarry tile is durable and has high impact resistance, but will chip and crack if given a severe blow. The tile is heat and frost resistant, and is resistant to grease and chemicals. Also, it will absorb and store solar energy. Quarry tile is available in a variety of shapes, and in colors ranging from terra cotta, buckskin, earth brown, rust, and rose to slate blue. The term terra cotta applies to an unglazed quarry tile made of hard, fine waterproof ceramic clay red to brownish orange in color, or in some instances of pure white. Quarry tile can be used in any room, and is especially effective with furnishings that have an Italian, early English or Mediterranean influence. It is installed with mastic — a thick, sticky paste — and can be put over almost any base.

Care for unglazed quarry tile by cleaning it with a damp mop and synthetic (soapless) detergent. Rinse and sponge it dry, then wax it with a water-based wax. For tough stains, make a paste with a powdered household cleaner and sponge mop the paste onto the floor. Let stand five minutes, then scrub with a stiff brush. Rinse and dry.

**Ceramic Tile** is another type of clay tile that is non-fading and very resistant to wear. It comes glazed or unglazed, and is easy to maintain. It doesn't stain from grease or chemical spills, which makes it great for kitchens. Ceramic tiles are available in many shapes, colors and designs. They will vary in price, depending on the quality of clay, the glaze and the firing process.

**Mosaic Ceramic Tiles** are small squares sold in sheets, and are installed with the backing sheet attached.

**Mexican Clay Tiles** have a crude base with a smooth surface. Whether handmade, or commercially-produced, Mexican tiles are found in only a few colors. They are durable, however, unless they are sealed they will crack easily, absorb stains and produce dust.

True Mexican tiles or "pavers" are still produced by hand with local clays, and dried in open fields. Firing in primitive ovens leaves them porous. Though initially less expensive, the cost rises because additional tiles must be purchased to allow for tile breakage during shipment and for the elimination of many unacceptable tiles. Purchase 20 percent more than actually needed to ensure a quality floor. The tiles are approximately one-inch thick, but are uneven, warped and dry in shape and texture. They can be used inside or outside to give a warm informal look. The cost of professional installation is expensive, but Mexican tiles are good for a do-it-yourself project. Seal the tiles with a commercial preparation designed for this purpose. Wash occasionally with a synthetic detergent, and then wax it with a water-based wax if you desire.

**Slate** lends itself to a more formal setting. It is used in traditional rooms, hallways and in traffic areas of formal living rooms, dining rooms and sunrooms. Virginia slate is black, charcoal or blue-green in

color, while Vermont slate is red, green or purple. Various shapes and sizes of slate are available and many times the natural shapes are used.

It can be polished or unpolished, but in more formal settings, it is usually waxed and highly polished. Slate is highly stain-resistant, but because it will scuff under heavy traffic, it should be sealed or waxed.

Installation is relatively easy, but a professional is still recommended for anyone who is inexperienced. To care for slate, wash it with a synthetic detergent, then wax it with a water-based wax.

**Marble** is the hardest of the non-resilient flooring materials. It is expensive, both in materials and cost of installation. Marble creates a formal look in a room and, thus, is well-suited to classic furniture styles. It comes in a range of colors from deep green, rose, and rust to white. Marble is extremely durable, but does stain readily. It can be used most effectively in foyers and around hearths.

Avoid using alkaline cleaners, such as ammonia and synthetic detergents, on marble because they breakdown the structure of the marble. Instead, clean marble with the suds from soap flakes and water, rinse well, wipe dry with a chamois to prevent streaking, and wax regularly with a marble polish. Spilled foods, cosmetics and drinks should be wiped up promptly.

**Terrazzo** is a man-made material consisting of marble or stone chips set in a cement mixture and polished to a smooth, shiny multi-color finish. Terrazzo made from larger chips gives a more formal appearance. It is, however, limited in design. Terrazzo is usually available either in 12-inch squares or custom-applied to fit the particular area. A solid concrete base is required for installation, resulting in a permanently installed flooring.

It is recommended for patios, foyers, hallways, recreation rooms, baths and other heavy traffic areas. Since terrazzo is easy to care for, it is highly moisture and stain resistant and hides soil.

Use a synthetic detergent, and no soap when cleaning terrazzo. Seal it if you desire, or occasionally wax it with a water-based wax.

**Flooring Brick**, not common brick, should be used for floors. The flooring brick, also called paving brick, is denser, less absorbent and has a higher resistance to abrasion than common brick.

Brick is available in a wide range of colors and shapes. Different clays produce different colors as well as different brick qualities. The common standard size of brick is 8" x 4" x 2-1/4". The bricks will be placed on a subfloor and must be lower than adjacent floors so there will be a smooth transition between floorings. Brick can be used to achieve a continuous look from the exterior of the house to the interior. Brick can be laid with or without mortar. Tile mastic or grout can be used. Fine sand is forced between bricks when they are laid without mortar. Sealing keeps the sand in place. When laid with mortar, joints are usually 3/8" to 1/2" wide. Natural brick tiles, or veneers, are available for use as flooring. These run 1/4" to 1/2" thick.

The high degree of texture and color of brick conveys a classic, yet rustic look. Unfinished brick transmits high levels of moisture and cold. It should be vacuumed occasionally to remove loose dust and dirt. Stains are absorbed readily by the brick. To remove grease stains, apply a dry cleaning spray or a powdered grease absorber used on driveways. Use trisodium phosphate on stubborn stains.

Often, powdery white spots, called efflorescence, appear on brick floors. These are caused by mineral salts in the mortar collecting on the surface. Remove efflorescence by scrubbing with soap, water and a stiff brush. A muriatic acid solution can also be used, but is dangerous. To use, cautiously add one part muriatic acid to nine parts of water. Always wear rubber gloves and protective glasses, and pour the acid in to the water when mixing. Older and light-colored brick may turn green after coming in contact with muriatic acid.

Sealed brick is resistant to stains from grease and water. Brick sealers are available in stain to high gloss finishes. Polyurethane varnish can be used but may give a yellowish finish to light-colored bricks. Apply two to three coats of masonry sealer to seal the brick adequately. If a waxy residue is on new bricks, remove it before sealing by using the muriatic acid solution described above. Also, before sealing new

brick, wait a minimum of 60 days to allow evaporation of water and avoid efflorescence.

**CAUTION:** *Do not seal brick used for fireplaces. Because sealers are highly flammable, sealed brick also needs to be vacuumed regularly, and mopped occasionally with a synthetic detergent.*

Waxed brick can be finished by sealing the pores of the brick with a liquid sealer or paste wax, and then applying several coats of paste wax. The floor should be buffed periodically, and have a new coat of wax applied every six months. Clean waxed brick by sweeping, vacuuming or occasionally damp mopping it.

**Concrete** consists of gravel, sand and cement mixed with water. Since it is inexpensive, it is used for both the base flooring and/or the flooring surface. Concrete is porous if unsealed, so it should be well-seasoned and sealed with masonry sealer. It can also be painted, but the finish will not be as durable. Concrete can be poured to fit an area, or obtained in tile form and then grouted. Color can be added before or after pouring. The surface can be smooth or rough, polished or unpolished, or scored to create interesting designs. A contractor can finish the concrete to look like cobblestone, tile and various other materials. This process is not recommended for do-it-yourselfers.

Concrete is good for areas that are used a lot such as patios, foyers and hallways. For a dressier look, wax it heavily with a water-based wax or paste wax. Never use lacquer, varnish or shellac on concrete. To clean concrete, use soap and water solutions only. Alkaline cleaners, such as ammonia and synthetic detergents can cause the surface of concrete to powder.

**Flagstone** is versatile and can be used in formal or informal rooms. It is a durable and handsome flooring material that comes in random natural or cut sizes, thicknesses, qualities and colors. Colors range from soft grays, to beiges and reddish-browns. Flagstone is easily maintained and suitable for heavy

traffic areas, such as walkways, patios and foyers. Dust flagstone regularly with a dry mop. Remove stains with trisodium phosphate. Seal and wax it if you desire with a water-based wax for stain resistance.

**Pebble Tile** flooring is made of pebble stones laid on concrete and then polished. The surface remains uneven, or pebbly. It is used for walkways, hearths, and minimal-use areas to provide an interesting textural effect. Dust and wash it occasionally with soap and water. Never use alkalis.

**Resin Floors** are a spread-on seamless flooring consisting of chips spread over an epoxy base. A hard urethane finish is added. This type of flooring can be installed over most floors. It is stain-resistant and durable. Brand names include Torginol, Dur-a-Flex and Poroflor. Resin flooring cleans easily with a damp mop. Because it has a built-in gloss, waxing is never needed. To build up the gloss after wear, apply a new coat of urethane finish.

## Using Hard Floors in Your Home

Since hard floors are distinct, they may be selected as a center of interest or play a supportive role to another center of interest, such as a fireplace, window, painting or furniture grouping. Care must be taken in selecting adjoining floor coverings to insure that they are compatible where they join together.

The color of the grout is very important. A contrasting grout will emphasize the masonry shapes, while a grout that blends with the masonry will create a more unified look. The selection of the color depends on the look that is desired. Darker grout shows fewer of the stains and discolorations that can occur with minimum maintenance. Discolored grout can take away the aesthetic beauty of a masonry floor. Also consider the acoustics desired in a room and the type of traffic, for example wheelchairs or walkers. Some masonry floors are slippery when wet unless they have a non-slip finish.