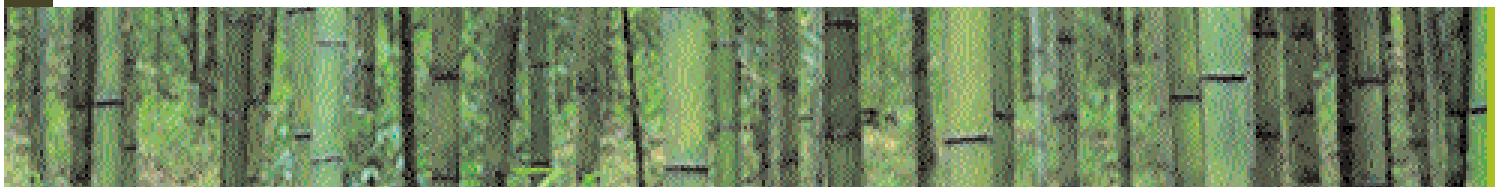
substrate preparation

Prep for a good bond: Anything in, on, or about the surface on which the floor is to be installed that may break the bond between the surface and the new floor or underlayment must be cleaned and / or removed.

Concrete subfloors: The surface must be sound and clean of all contaminants (oil, grease, wax, dirt, asphalt and tar-based residue, curing compounds, latex and gypsum compounds, dust, paint, etc.).

New concrete must be cured for a minimum of 28 days to avoid drying and shrinking cracks.



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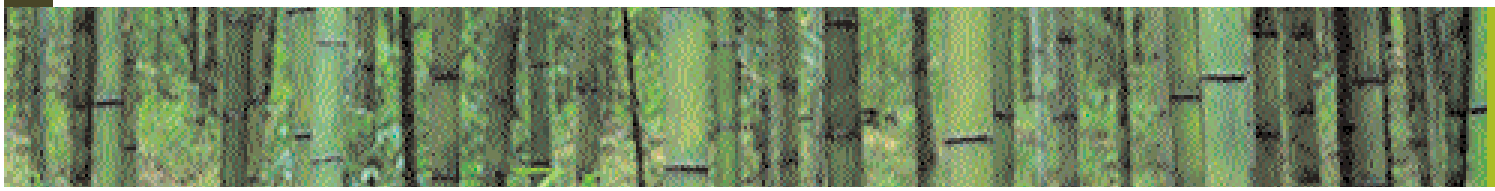
mechanical cleaning

Mechanical cleaning removes the contaminants and the concrete to which they adhere.

Scarifying can be used ONLY when there is not a thin mil topping going over the concrete. Grinding and sanding are effective but slow for large areas.

Grinding can be used and it can be faster than shotblasting or scarifying depending on the contractor's equipment.

Sandblasting, if environmental restrictions permit its use, can be used to remove contaminants from a large area. However,



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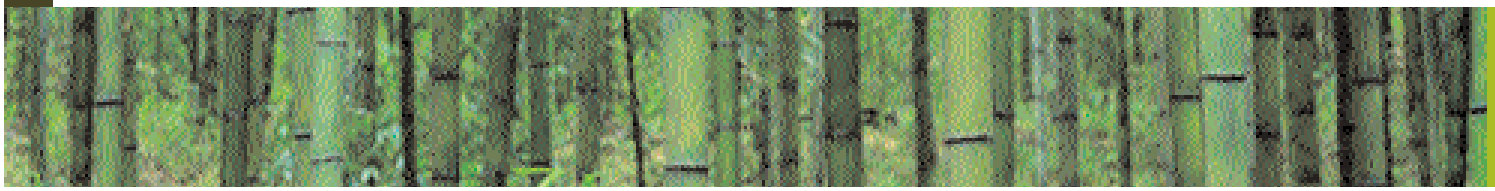
mechanical cleaning cont.

experts recommend never using sandblasting as it is messy, dangerous and very time-consuming.

Shotblasting, where the surface is broken up by abrasive material forced through a jet nozzle, is another excellent method for quickly removing a large variety of sealers, coatings, curing compounds, and other contaminants.

Shotblasting can remove glue, epoxy, urethane and clean concrete to an acceptable profile for ANY material you wish to put on it. It is dust free and environmentally safe.



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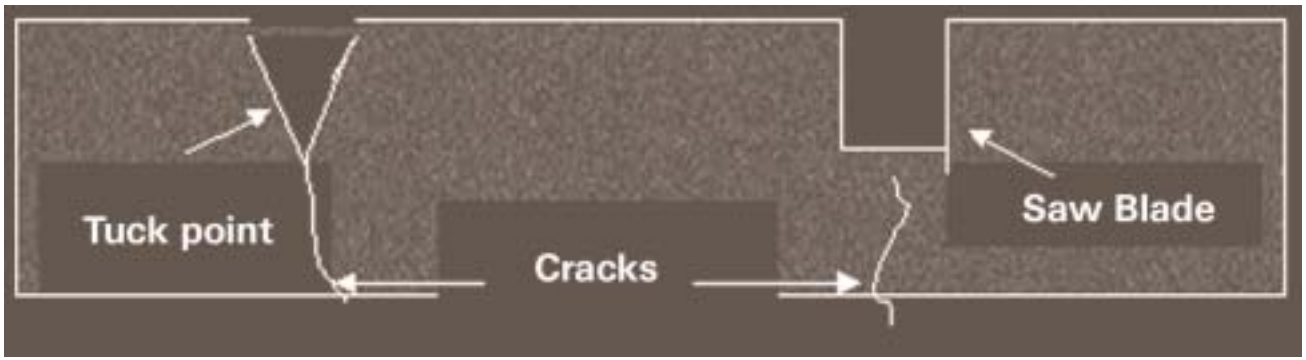
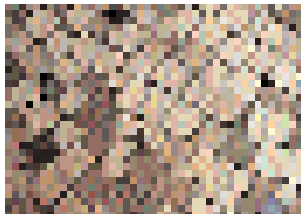
saw cutting

A hybrid flexible epoxy may be used or a urethane material. However all cracks should be saw cut out to and then filled. You must not use a tuck point blade for this but rather a standard 1/8-1/4" diamond saw blade. The reason being is you want the material to be part of the floor and move with it not against it. Notice the "V" cut on the left. As the slab moves the material is pushed out from one side or the other. Notice the "square" cut on the right. The material will move with the floor.



non-porous substrates:

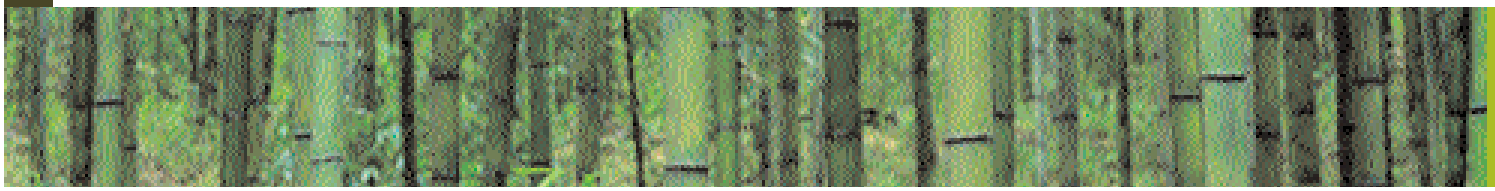
Terrazzo, ceramic and quarry tile, certain power-troweled or burnished concrete, epoxy coatings, etc., are all non-porous. They must be dry, solid, sound and completely cleaned of all contaminants with professional stripping agents. Tile substrates must be evaluated tile by tile to determine whether the bond is still intact and if any tiles are loose.



metal subfloors:

Must be cleaned by shotblasting, wire brush or other mechanical methods and free of all contaminants and rust. Steel decking should be painted with an anti-corrosive coating to prevent rust.

Shotblasting is used on metal with no problem. The US Navy uses Shotblasting on all ship decks!



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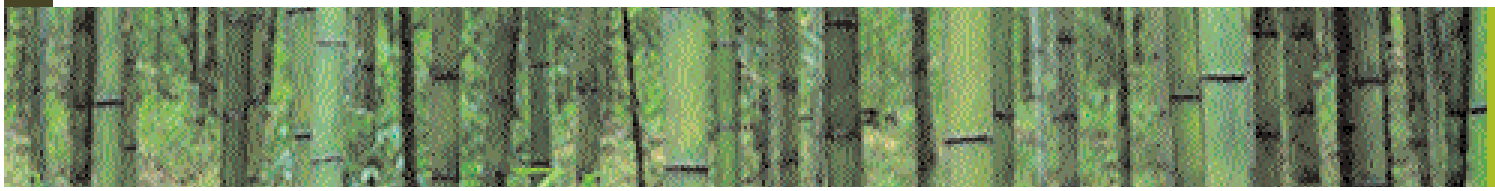
underlayments—self-leveling / underlayments—trowelable

An underlayment is a product designed to "flat" and smooth interior concrete subfloors.

Self-leveling means that the product, when mixed with water, produces a pourable or pumpable liquid compound that produces a smooth, flat, hard surface.

It CAN level a floor if there are pins set into the substrate at the height you wish to level to. If not then it will merely smooth out or "flat" the floor although it may still be very much off level.



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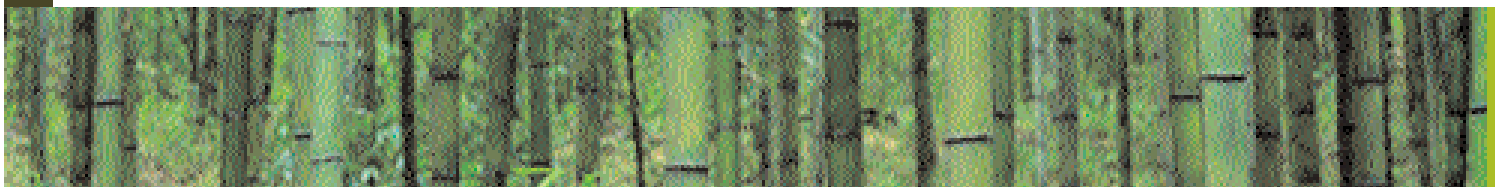
Epoxy is a hard material but urethanes have much better abrasion resistance. We usually will NOT use an epoxy on a restaurant floor unless it is in the kitchen. The customer area needs a good coefficient of friction for safety and good wearable surface. Urethane fits both of these quite well. Although there are epoxies that are good they do not wear as well as urethanes overall.



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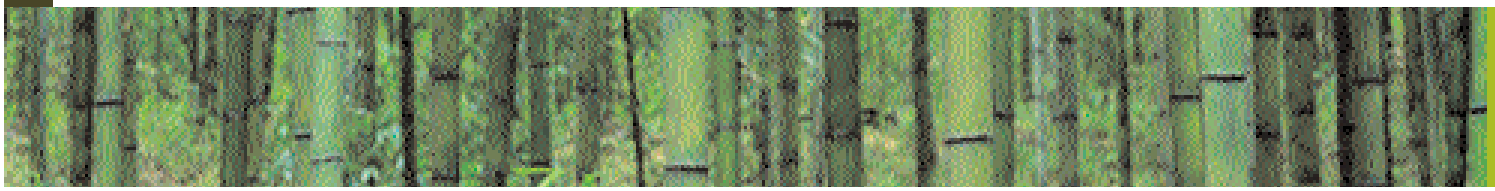
wooden subfloors

Wooden floors move under stress and expand with temperature and humidity changes. The entire floor should be firmly fixed and any moving boards must be re-nailed. Joints between boards can be very wide, and surfaces are often rough and uneven. Installing a layer of plywood or gypsum board can give elevation problems and may not produce a flat surface. Cement patches may crack along joints. Therefore, you might consider using a flexible underlayment product for these situations. These generally involve a pliable lattice or mesh component with a thin layer of concrete filler.



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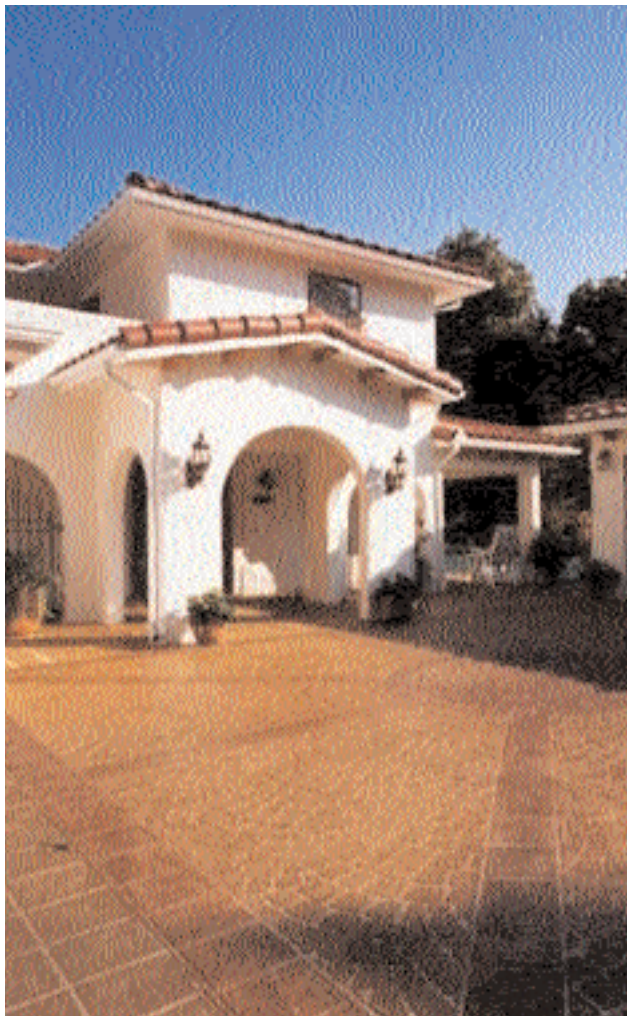
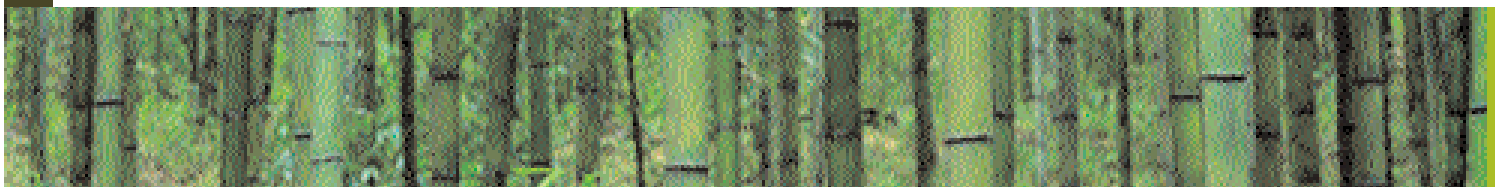
exteriors—driveways and sidewalks:

All existing concrete surfaces must be structurally sound, solid and completely clean. The thorough and complete removal of any kind of contaminant that would act as a bond breaker such as sealers, curing and/or patching compounds, dust, oil, grease, water, is critical.

Overwatered, crumbling, frozen, or otherwise damaged surfaces must be mechanically removed down to clean, solid concrete.





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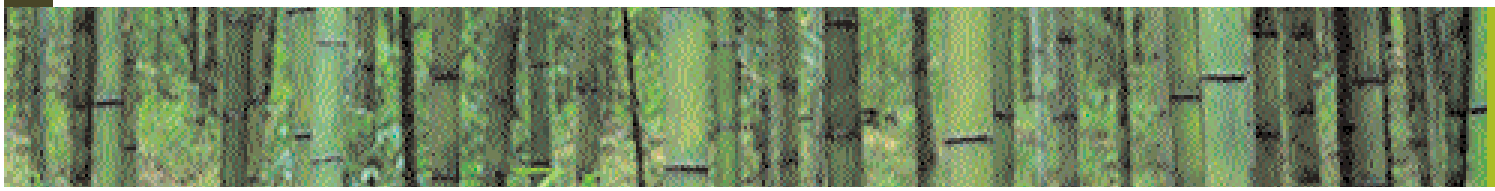
installation

underlayments—self-Leveling / underlayments—trowelable

An underlayment is a product designed to flatten and smooth interior concrete subfloors.

Self-leveling means that the product, when mixed with water, produces a pourable or pumpable liquid compound that produces a smooth, flat, hard surface.

Trowelable means that the product is meant to be applied with a trowel, float, or similar tool.



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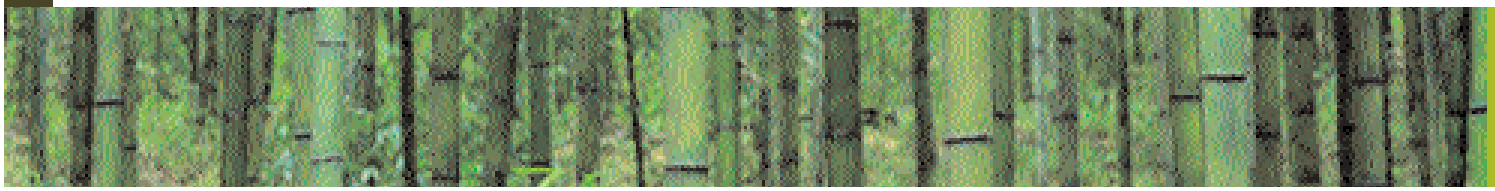
subfloor preparations

All subfloors must be solid, sound and completely free of all contaminants. Cleaning must be done in accordance with the particular substrate material (i.e., concrete, wood, metal, stone, tile, etc.).



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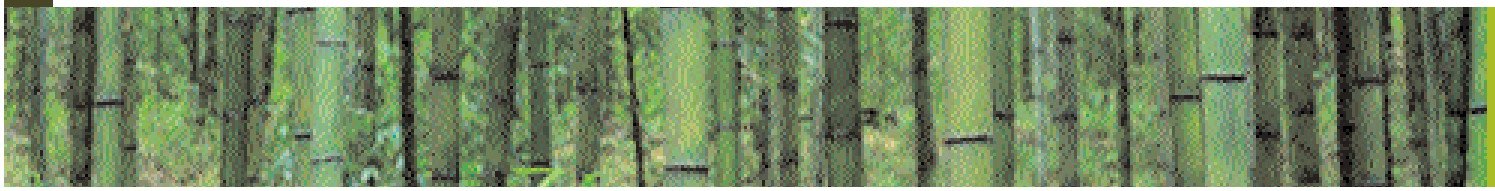
priming

Primer seals the substrate and improves the bond of the finish product. The key to proper priming is not applying too heavy or too thick a coat—it should be no heavier than a coat of paint. Concrete subfloors must be clean, solid, dry, and properly primed for a successful installation.



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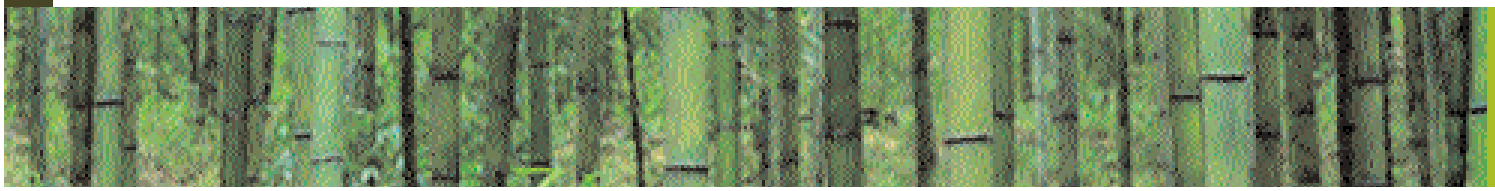
skimcoating

Skimcoats and feather finishes smooth ridges, fill cracks, gouges, joints, and generally provide a workable surface. This process allows the installation of most types of floor covering in a short time, without the need for priming.



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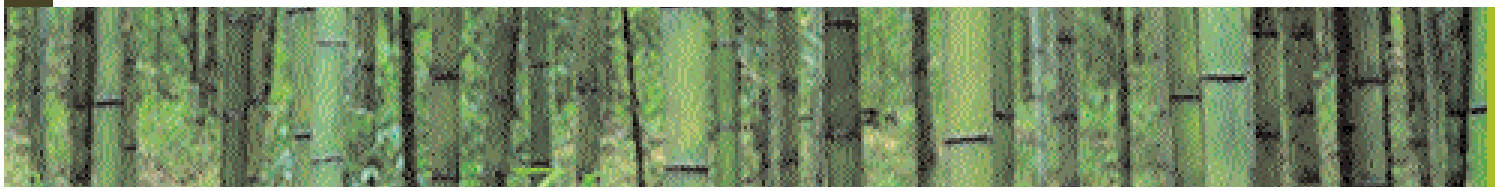
patching

Follow manufacturer's directions. All surfaces must be solid, sound and completely free of all contaminants by mechanical cleaning (scarifying or shotblasting).

Often patching products are not meant to be used where there is water / moisture, or as a wear surface (i.e., where there will be walking or other movement).



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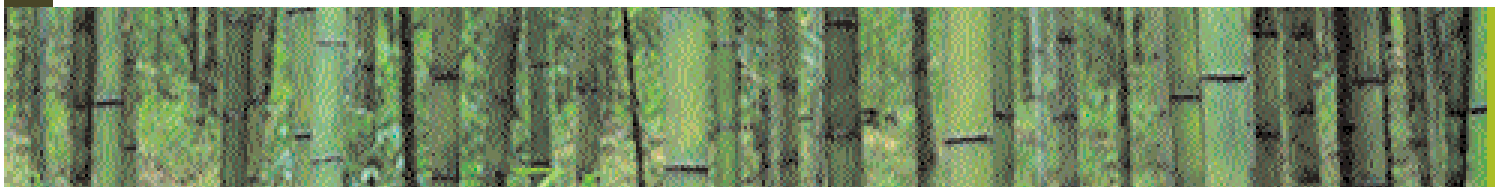
non-porous subfloors

Terrazzo, ceramic and quarry tile, certain power-trawled (burnished) concrete, and epoxy coatings, must be dry, solid, well bonded, properly cleaned, and primed. Pay particular attention to manufacturer's directions.



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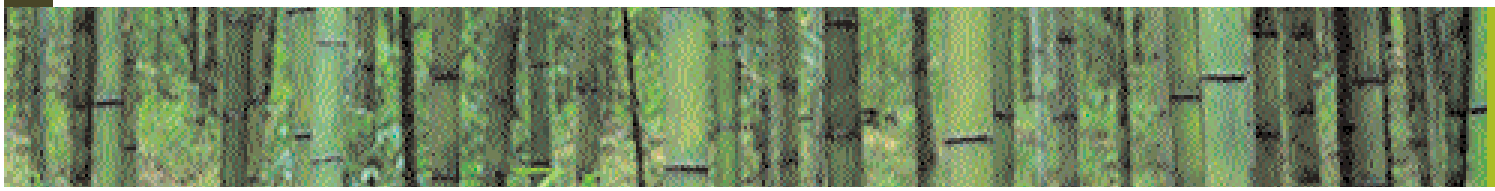
toppings—self-leveling

subfloor preparations:

All subfloors must be solid, thoroughly cleaned, free of dirt, dust, oil, wax, grease, asphalt, paint, latex compounds, curing and sealing compounds, and any contaminant that could act as a bond breaker. All concrete cleaning should be done mechanically. Overwatered, wet, frozen, or otherwise weak surfaces must also be cleaned down to sound, solid concrete by mechanical methods only.



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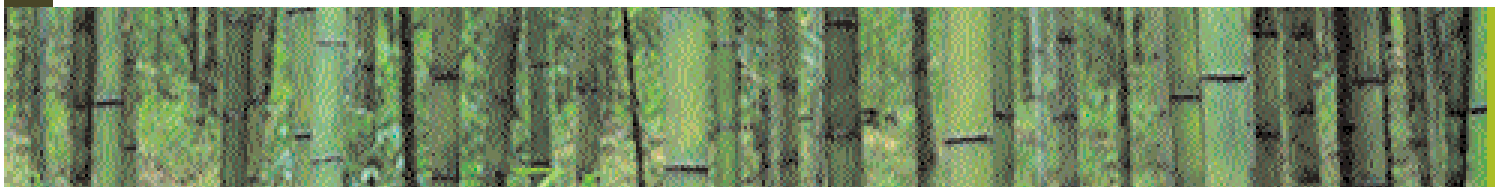
finishing—sealer

sealer

Sealer protects all unpainted finished surfaces. Despite its durability, concrete is a porous material, which means it can absorb water, chlorides, stains, and other water or oil-based materials that it comes in contact with. By treating the concrete with a sealer, you inhibit the penetration of these intruders while allowing the surface to breathe. That way, moisture within the concrete doesn't become trapped.

All unpainted finished surfaces must be sealed properly.



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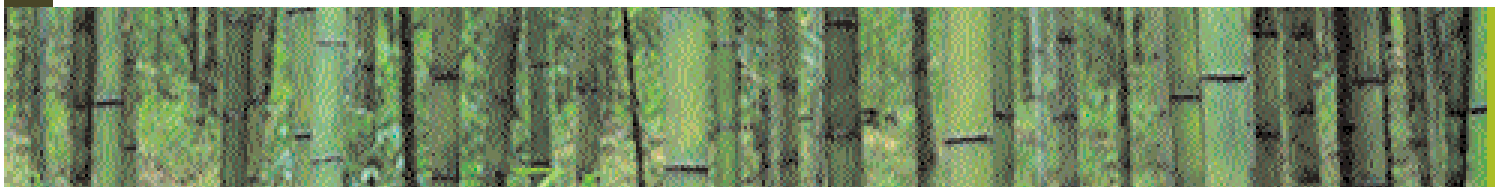
finishing—color

acid staining

Chemical stains can be applied to new or old, plain or colored concrete surfaces. Although they are often called acid stains, acid isn't the ingredient that colors the concrete—it's the metallic salts.

Metallic salts, in an acidic, water-based solution, react with hydrated lime (calcium hydroxide) in hardened concrete to yield insoluble, colored compounds that become a permanent part of the concrete.



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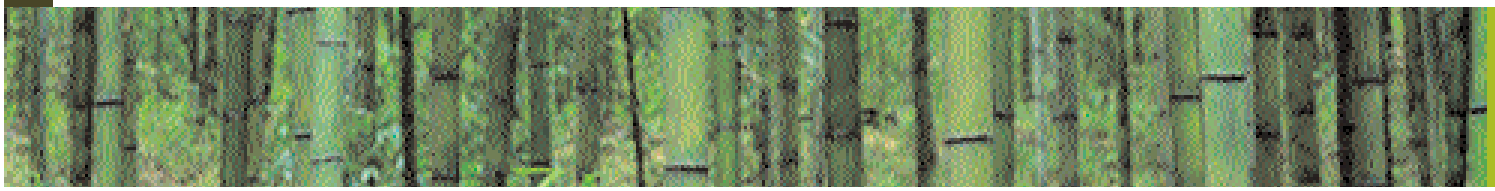
painting

Painting allows you to create the look of marble, stone and slate. You can create a tiled appearance without seams or lines, providing a smooth, seamless, low-maintenance floor.

Painted floors are usually customized. You can select colors and combinations that either bring your whole project together or create a stand-alone effect.



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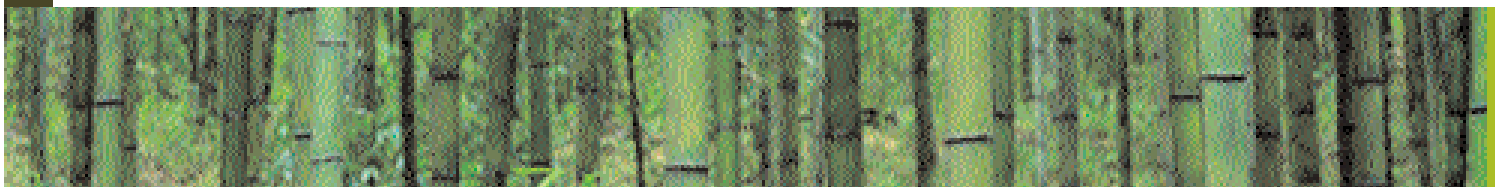
polishing

Polishing concrete is similar to sanding wood. Heavy-duty polishing machines are equipped with progressively finer grits of diamond-impregnated segments or disks (like sandpaper). These are used to gradually grind down surfaces to the desired degree of shine and smoothness.



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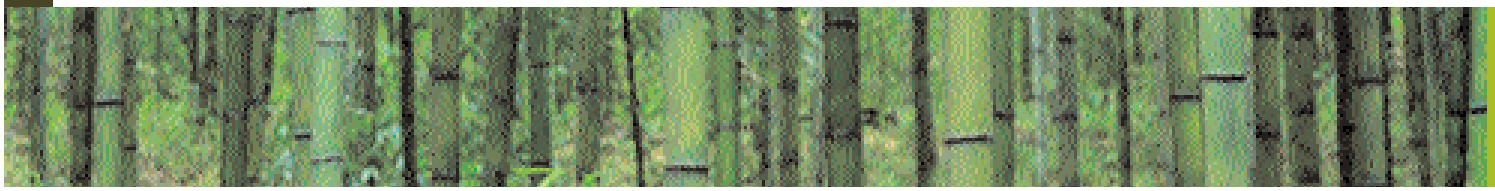
With polished concrete, you never need to apply a topical coating or wax. Coating the surface defeats the purpose of a fully polished floor; the concrete floor itself is already shining, and there is no need to put something on the floor that would then need to be maintained.



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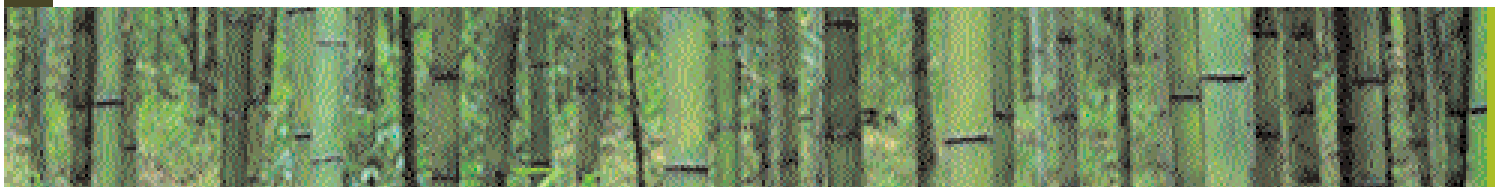
Kept clean and dry, polished concrete floors are generally no more slippery than plain concrete surfaces. Public facilities that want to provide extra protection against slip-and-fall accidents can treat polished floors with anti-slip products. These products contain special additives designed to improve traction and make wet surfaces safer.



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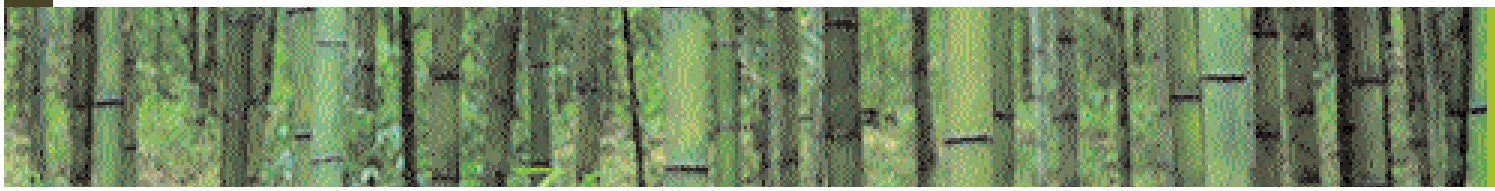
sustainability

Concrete is a friend of the environment in all stages of its life span, from raw material production to demolition, making it a natural choice for sustainable home construction.

- **Resource efficiency**
- **Durability**
- **Thermal mass**
- **Reflectivity**
- **Ability to retain stormwater**
- **Minimal waste**



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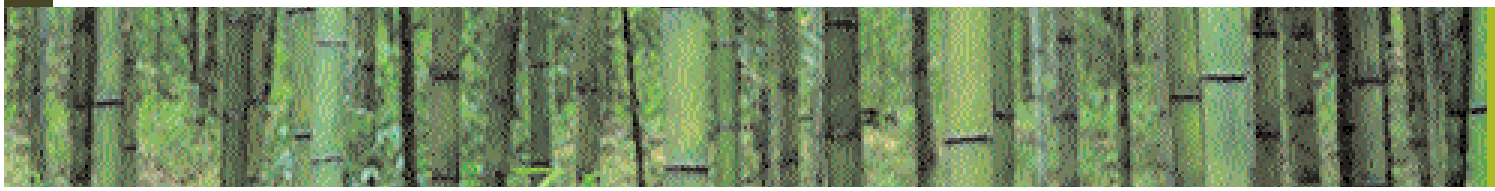
beauty

Concrete, when properly applied, is durable, cost-effective, sustainable, healthy and very beautiful building material.



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