



IT'S HIP TO BE SQUARE

New Dimensions in Concrete Flooring. BY KHAI FOO

ASK ANY DESIGNER, and they'll tell you that selecting floor finishes is a challenging task. The range of material, colour and pattern is broad and the impact on the overall feel of a space is high. And the considerations go far beyond the aesthetic — in an increasingly eco-savvy consumer market, we are also faced with questions such as: What flooring makes for a healthier home? Is the manufacture and use of a particular material responsible and sustainable? What is best for long-term maintenance and durability? And so on.

Over the past twenty years, concrete has emerged as a popular and potentially "green" option in the hard surface market. Although it has been long appreciated for its structural qualities, it is only recently that concrete's aesthetic potential has been fully explored. With the rise of loft conversions and industrial chic in the eighties, bare concrete gained acceptance as a bona fide finished floor — no coverings required. More recently, designers have taken this ubiquitous building material into the realm of fine finishing with artful applications of colour, pattern, and texture.

Few other materials can match concrete's combination of functional and aesthetic versatility. It can be stamped, cast in colour, trowelled smooth, polished, stained, etched, scored, sandblasted and ground down. The finished look can run the gamut from rustic to refined, country cottage to urban minimalist. Additionally, innovations in concrete technology have created formulations that can be cast thinly and applied over a variety of structures, including wood frame and plywood, making the range of suitable applications practically limitless.

Less well known but increasingly popular, precast concrete tile is breaking new ground in concrete decor. As the name suggests, concrete tile is produced in thin modular slabs, in formats similar to ceramic, porcelain or natural stone. Unlike poured-in-place concrete, the tiles are cast and cured in controlled manufacturing

environments — a process that eliminates the variables, and therefore the risks of a site-cast floor. Precasting allows for predictable colour, finish and installation and the benefits do not end there.

Precast concrete tiles can be formed into an infinite variety of shapes, allowing for unique and uncommonly large tile formats and relatively easy customization. Tiles can also be combined with other precast concrete elements such as stair treads, mouldings and copings — a real boon for designers trying to achieve a seamless flow of materials throughout a space. Larger, panel-sized tiles can even be carried from the floor onto vertical surfaces to create spectacular feature walls.

When it comes to durability, concrete has a long and proven track record. The high performance mixes used in concrete tile can have up to ten times the strength and density of a typical sidewalk. This makes for a floor that, in most residential applications, can last a lifetime. High performance concrete is also naturally UV stable, rot-proof and freeze-thaw resistant, which makes it perfect for outdoor room applications.

The material properties of concrete tile may also contribute to a healthy and comfortable living environment: cured concrete has no harmful emissions, off-gassing only water in its curing phase. It requires very little maintenance and as a general rule requires only mild cleansers — topical coatings and waxes are not necessary. When combined with in-floor heating, concrete tile adds significantly to the thermal mass of a floor, contributing to a more efficient and comfortable heating surface.

On the question of sustainability, however, concrete tile has a somewhat checkered reputation. On one hand, it is made from readily available, natural, and often local materials. Concrete tile also has a considerable functional and aesthetic lifespan. On the down side, the production of cement — a key ingredient in concrete — consumes enormous amounts of energy and contributes

heavily to green house gas emissions. But significant strides are being taken to replace the cement in concrete with recycled post-industrial byproducts such as fly ash, slag, and silica fume. This not only decreases the embodied energy and emissions of concrete production but also has been shown to increase the performance of the finished product. But like so many other products in the building industry, the sustainability of concrete tile is as much about the appropriateness of its application as it is about the material itself. For a high-traffic area, a concrete tile floor might be a much more sustainable choice than FSC certified wood flooring or natural fibre broadlooms.

For many designers, the chief reason to use concrete tile is aesthetic. Concrete tile combines some of the best qualities of other flooring options. It has the organic feel of natural stone and wood and the wide selection of colours and sizes offered in porcelain or ceramic. It has the installation flexibility of a tile with the customization potential of millwork. Concrete tile also evokes a solidity seldom found in modern building materials — it is, after all, made of concrete. □

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Concrete tiles offer designers versatility in colour, pattern and texture.