



For the past few years, interior designers have increasingly been using concrete for kitchens and bathrooms. Designers love concrete because of its flexibility – it can be cast into any shape and offers a multitude of colours.

The Future of Concrete

Concrete is blasting away its dull grey image and finding a new home within modern interiors, garden landscaping and some innovative new building systems. Mark Brinkley reports.

Whereas we are happy to have concrete in places where we cannot actually see it, most people instinctively shy away from using concrete finishes, not without some justification. This country, in common with many others, has a legacy of dingy looking concrete buildings dating from the 60s and 70s. Concrete is always dull grey and doesn't weather well – right? Wrong. Concrete technology has moved on during the past thirty years and there are now ranges of highly coloured, long lasting concrete finishes available for any number of purposes. Pavings, walling, internal floors, swimming

pools, steps – you name it. You can sandblast concrete, you can stencil it, you can even imprint photographs into it. Concrete kitchen worktops are now the height of fashion, gracing many a trendy London loft apartment. In this, the last of our series on using concrete in self-build, we take a look at some of these alternative uses.

Pattern Imprinted Concrete:

Concrete has long been used for road surfaces and driveways but, in the 50s, the Americans started to develop decorative paving techniques, which at first mimicked

individual pavers and have more recently become a unique form of hardstanding in their own right. Pattern imprinted concrete, as it is known, works by stamping moulds and adding colours into the still wet concrete. It is quite an involved art in itself and generally best left to specialist contractors. Nevertheless, it is a competitively priced product which many people are choosing for their driveways and patio areas and, increasingly, even their internal flooring. Typically in the UK, prices vary from around £30-45/m².

Pattern imprinted concrete has certain advantages over more traditional block paving systems. Being poured in a single, monolithic slab, the resultant surface is almost maintenance free. Whereas many people are surprised to find that block paving needs

frequent weeding in order to look good, printed concrete stays as it looks when laid. Colourfast dyes and through colour tinting can be used to add a whole range of colour possibilities to the concrete and there are a far greater variety of finishes available than can be offered by paving blocks or slabs. Recent developments have seen the introduction of polyurethane moulds, which can reproduce in great detail the colours and textures of such diverse materials as slate, stone, brick and even wood. It is possible to etch stains into the surface so that complex geometrical shapes can be featured and self-adhesive rubber stencils are available that can be lightly sandblasted to create surfaces with different textures and colours. The whole field continues to develop and change, led largely

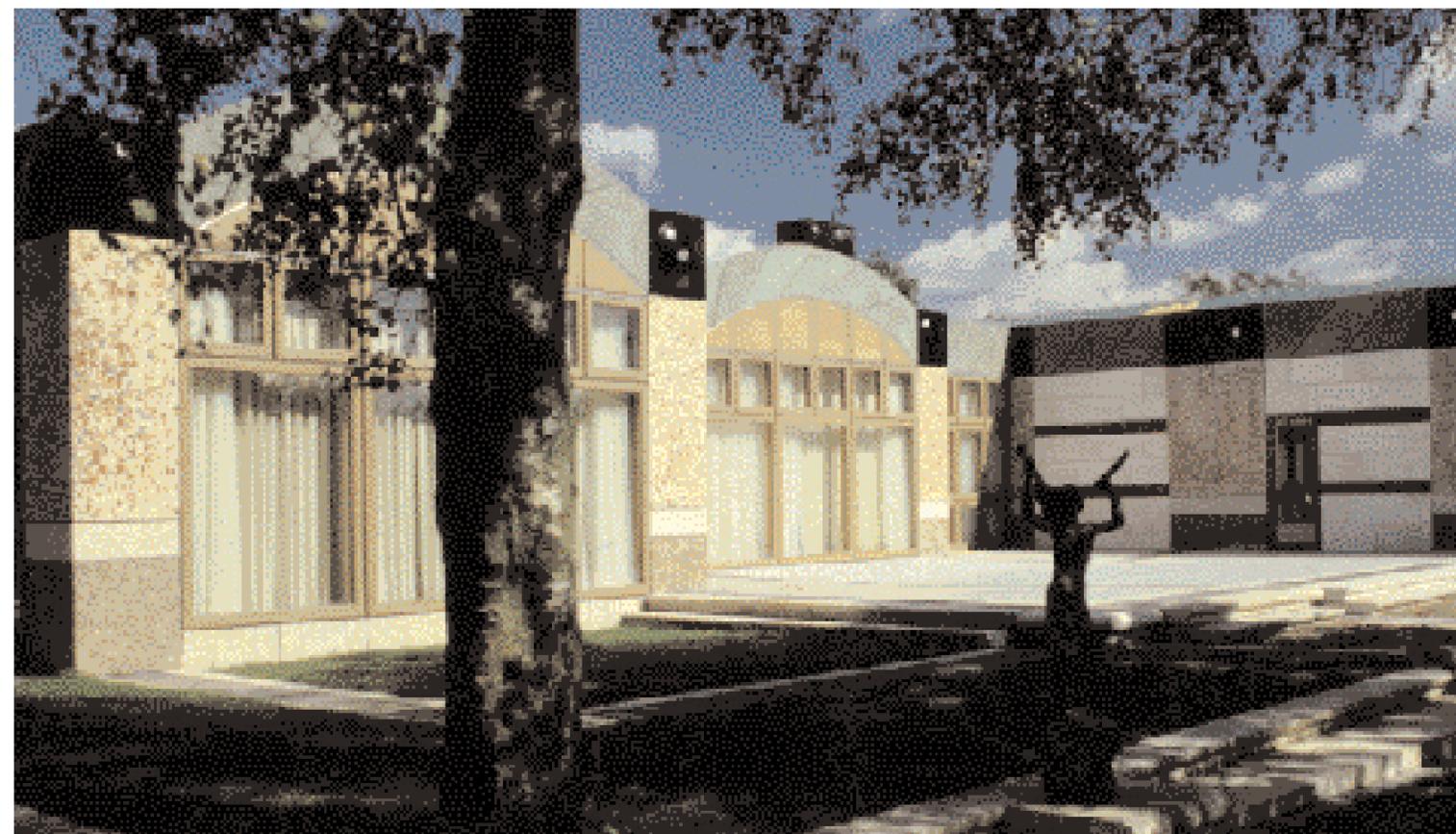
“Concrete technology has moved on during the past thirty years and there are now ranges of highly coloured, long lasting concrete finishes available for any number of purposes.”

by what is happening in North America. It is very widely specified at theme parks, such as Disney and Legoland, where patterned imprinted concrete reveals itself as a uniquely flexible and durable surface.

One interesting example of patterning in concrete is the work of the artist Mel Chantry, who has just completed a commission to create a water fountain feature in the new Princess Diana Memorial Playground in Kensington Gardens, London, working with highly regarded contractors E J Lazenby. Mel's brief was to work in various themes connected with Peter Pan. “It had to be concrete really because it's the only material that is plastic enough for us to work in a sculptural way.” Various ingenious designs are worked in, including starfish and crabs mixed in with a collection of rocks shipped in from Wales, to form an amazing petrified beach in front of Captain Hook's galleon.

Profile Paving: Profile paving is a paving technique related to pattern imprinting but with strikingly different results. Rather than colours and patterns being added to the concrete after it is poured, with profiled paving you specify a particular concrete mix, which cures to reveal the natural colours and textures of the aggregates which were used to make the mix. Whereas with most concrete you tamp the surface smooth and cannot see the stone and aggregates used to actually make the concrete, profiled concrete is designed to show off the constituent parts and, of course, you vary the finished look by varying the stone you choose to produce the concrete. Consequently, you can create finished surfaces which reflect the local building styles. You can choose from a wide palette of mixes suitable for all parts of the country, from the dark granites of Aberdeen to the honeyed limestones of the Cotswolds. Pigments can be added to the mixes to add to the effect.

Blitzcrete and Doodlecrete: The work of the renowned architect John Outram takes the concept of concrete profiling a stage or two further. London based John has a worldwide reputation for designing extraordinary multicoloured buildings and concrete is one of his favourite materials. He spends days experimenting with different ingredients and adding colour pigments to the cocktail to produce vibrant panels of profiled concrete, some of which then have further surface treatments added to them. ▶





The idea for working this way came to him after reading a wartime pamphlet, which suggested that debris from bomb damaged buildings was a suitable material to make concrete with – hence Blitzcrete. His first Blitzcrete project was a house in Sussex built in 1985. Since then John has used the technique – and the related Doodlecrete – on buildings across the world.

Each Blitzcrete panel is made to order. John specifies the ingredients and geometry of each panel and they are made up in the South London workshop of Diespecker Marble & Terrazzo. The intricate nature of the work makes it expensive to produce on short runs, so it hasn't been widely used in housing.

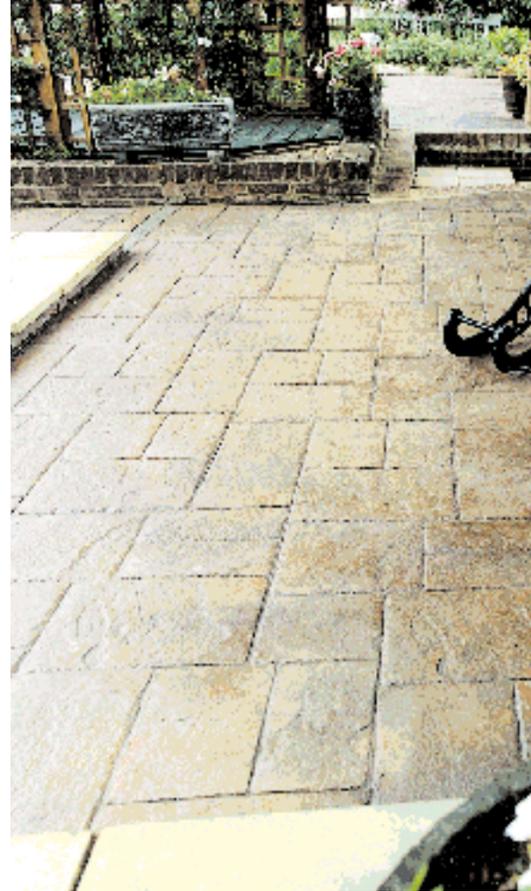
John Outram's philosophy on building is refreshing and unusual. "I don't like to see great chunks of marble or granite being hacked out of quarries and shipped around the world when there are better materials to build from lying all around us. Buildings are man made and it is, therefore, entirely appropriate that we should make our buildings from man made materials like concrete. I am simply showing how beautiful concrete can be if it is used thoughtfully."

Concrete Kitchens: For the past five years, interior designers have been using concrete for kitchens and bathrooms. Architect Ian Hulme of Totem Design, based in London's Bayswater area, is a keen practitioner and has worked with a number of projects which have used concrete. "It's a great material to work with because it's so flexible," says Ian. "We first started using it around five years ago and we are getting more and more requests for concrete work-

▲ Colorado self-builders Scott and Luann Jones have built one of the first dome homes in the USA, using concrete spayed onto an inflatable balloon that is later removed. The couple undertook much of the work themselves on a DIY basis and are currently adding a garage block.

tops, bars and even bath surrounds. You are not limited by set sizes and can work at any thickness or width." Lane also works with concrete in a sculptural way, designing with engineers to create stunning effects like shelving and staircases which appear to have no visible means of support. "We don't go in for colouring concrete other than sometimes using white cement. We tend to use very ordinary ingredients that can be picked up from any builder's merchant."

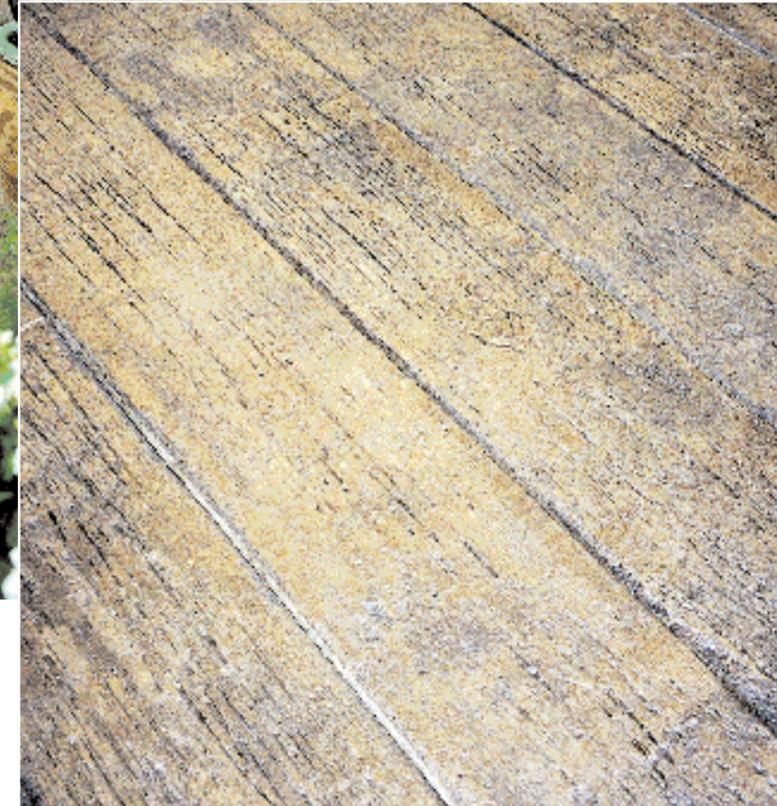
Tunnel Forming: This summer sees another innovation in concrete arriving in the UK, this time from Holland. A new housing project in Hackney, London, will be constructed with concrete walls and floors using a system called tunnel forming. This involves creating a series of metal formwork into which the concrete is poured. It differs from regular wall formwork in that it includes floors and ceilings in the same operation – hence creating something like a tunnel. As a result, you have a structure that combines high thermal mass with high sound insulation and inherent fire resistance – not to mention extremely quick construction times. It is relevant to volume housebuilding more than individual self-build yet it nevertheless shows another aspect of concrete technology at work.



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Stateside Techniques: Despite modern concrete having its origins in Victorian Britain, this country has been in the slow lane for some time when it comes to actually using concrete in housing applications, apart from foundations, floors and high rise apartments. The world's first concrete house was built in Kent in 1835 but during this current year the UK will probably build no more than 30 or 40 individual concrete walled homes out of a global total which will be measured in millions. Similarly with basements, where the combined UK total is running at a few hundred per year, compared with a global total around a thousand times more.

Not surprisingly, other areas, notably North America and continental Europe, have long taken a lead in developing new techniques for concrete home building. The most remarkable of these is the recent development of concrete (or monolithic) dome houses, of which there are now several hundred in the USA. These structures start life as a piece of loose fabric known as an Airform, which is inflated with blowers, just as you might inflate a balloon. With the blowers running continuously, an insulating polyurethane foam is then sprayed onto the inside of the Airform, a steel

▲ Recent developments have seen the introduction of polyurethane moulds, which can reproduce in great detail the colours and textures of such diverse materials as slate, stone, brick and even wood. This example is by specialists E J Lazenby: 01935 823756.

cage is attached inside this and Shotcrete – a special spray mix of concrete – is applied to the interior surface of the dome. The steel cage becomes embedded in the Shotcrete and not until this layer has cured is the blower turned off.

It sounds like science fiction but produces stunning homes amazingly quickly and relatively cheaply. Scott and Luann Jones are Colorado self-builders who built one of the first dome homes. They undertook much of the work themselves on a DIY basis, familiar to many UK self-builders. "There was so much curiosity in the neighbourhood," Luann recalls. "People began speculating about what was going up – particularly when they saw the Airform inflated, then the shell built." Luann eased their worries and curiosity by creating a billboard with pictures of Monolithic Dome homes and an explanation

of what they were building. "The children and I placed it at the start of our driveway and many people stopped to read it."

The Jones' moved into their 280m² dome home in 1997 and have continued to work on the property, since adding a garage. "The openness and quiet continually amaze our visitors – especially people who have never been in a dome. None of the upstairs rooms have a flat ceiling, they have bay windows and the walls go up to the top of the dome, so the rooms have that cathedral look," Luann explains.

The finishing of their dome has included many features familiar to UK self-builders. The Jones' have opted for partial underfloor heating, a central vacuum system and a preponderance of south facing windows – at an altitude of 6500ft, their home is subject to a much harsher climate than anything seen in the UK, yet their fuel bills are approximately one third of similar sized neighbouring homes. The cost of all this work has been \$114,000 (£70,000) – or £250/m², a rate that most UK self-builders could not dream of equalling. As yet no Airform Monolithic Dome homes have been built in Europe but the technique produces such eye catching results that it can only be a matter of time before they start to appear over here. It will certainly give our planners food for thought! ■

Useful Contacts

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