



Sustainable Construction – task group launched

BCA and The Concrete Centre have continued to make progress with their sector sustainability strategy by setting clear objectives for the cement industry and promoting the use of concrete as a sustainable material. The Quarry Products Association has launched its own sustainable development strategy for aggregate producers and in December British Precast reported progress during the first year of its four-year plan to develop and deliver greater sustainability in the production and use of precast concrete products.

In response to these developments, at the annual seminar in September, Britpave announced the launch of the Sustainable Construction Task Group, to replace the old Environment Task Group and expand its coverage beyond the 'green'. Progress has been made in defining a remit for the group and establishing a core team to manage its launch.

The Sustainable Construction Task Group will:

- Identify the sustainability aspirations and targets of major clients for slip-formed concrete and ground remediation.
- Work with other Task Groups to promote the ways that cement and concrete solutions can help achieve them.
- Monitor Britpave publications and help address sustainability issues within them.
- By liaising with TCC and QPA keep Britpave members abreast of initiatives elsewhere within the cement and concrete sector.
- Where important gaps in our knowledge are identified the Group will apply for funding and manage the research necessary to fill them.

Membership is open to all in Britpave and you are encouraged to contact Task Group chairman Tony Parry at tony.parry@nottingham.ac.uk for details.



The Concrete Society Awards Dinner

Ian Cox of The Concrete Centre presents the sustainability award to James Charlesworth and David Jones.

step barrier wins sustainability award

The new concrete step barrier, (CSB) promoted by Britpave won the inaugural Concrete Centre Sustainability Award. Held in association with The Concrete Society, the Award was for projects that achieved a balance between environmental, social and economic impacts. This achievement is often complicated by the conflicting nature of these impacts but judges felt that this had been clearly met by the concrete barrier.

Concrete step barrier is a zero-maintenance safety system that will save hundreds of lives as it

is rolled out across the motorway network. And that includes the lives of barrier maintenance workers who are currently needlessly put at risk repairing steel barrier systems. Journey reliability will be radically increased and the environment will benefit from the use of lean construction techniques and materials that are 100% recyclable. It also reduces the vehicle emissions associated with the congestion caused by repair and maintenance works to steel safety barrier systems. In summary, concrete step barrier is a truly holistic sustainable solution that encompasses social, environmental and economic facets.



The HA decision to introduce CSB will prevent potentially fatal situations such as this on the M1 where a team of barrier repair workers is unprotected from fast lane traffic. This type of steel barrier repair situation is repeated over 3000 times per year across the motorway network in England, resulting in around 12 unnecessary and potentially preventable deaths.

blackpool

Our most successful seminar ever

Our most successful Conference got off to a good start in September with an early evening step barrier presentation. This popular addition to the seminar programme was chaired by David Jones and featured Richard Sturt (Arup) on the interpretation of potential for injury from barrier crash test results and John Salter (Arup) who spoke about the behaviour of steel step barrier on bridges. Britpave's James Charlesworth (Extrudakerb) concluded the presentation with general construction details and a report on a live project.

Dinner on the Monday evening proved to be a first class networking opportunity. Following a delicious meal we were entertained in true Blackpool style by Phil Walker, North West Comedian of the Year 2002/03. The Britpave Golf Cup was presented to Jim Troy who represented the Tarmac team.

After a welcome from Chairman David Gillham on the following day, delegates watched a film on safety produced by EuroRAP. Professor Robert Armitage (Scott Wilson) and Bill Moss (Atkins Global) gave presentations on motorway widening, followed by Peter Anderson (Balfour Beatty) and John Pitkethly (WSP) who shared their experiences of widening Europe's busiest motorway, the M25, at Junctions 12 to 15.

During the day there were several opportunities for delegates to visit the exhibition where the stands were of a high standard. After the coffee break our European colleagues Luc Rens (Fabelcem) and Pieter de Winne (Roads & Traffic Administration East Flanders) gave an account of the Belgian experience with overlays and inlays and Josef Richter (Skanska) spoke on high output concrete paving of a new motorway in the Czech Republic.

The afternoon started with a presentation on airfield pavement construction by Jim Lafrenz (Director of Airports, American Concrete Pavement Association). This was followed by John Donegan's highlights of Britpave Task Group activities and Hedley Greaves (British Lime Association) on soil stabilisation. Ferry Smits (Dutch Concrete Paving Society) enlightened delegates on Dutch developments on the guided bus system in Eindhoven. The afternoon ended with a presentation of the new Britpave publication, Concrete hardstanding: design handbook by its author Alex Lake (Burks Green).



Peter Anderson, Balfour Beatty Ltd



Luc Rens, Fabelcem



Josef Richter, Skanska (CZ)



Pieter de Winne, Ministry of the Flemish Community, Roads & Traffic

britpave golf day



John Donegan, Adrian Erwee and Andreas Moser



John Finch, Brian Swartzkopf, Kent Godbersen and Gerry Brown

The Winning Teams

1st – **John Wharton and Rob Cundy** (Tarmac)

2nd – **Tony O'Neil and Paul Broadhead** (Tarmac)



The winning teams

guided buses

Cambridge guided busway gets go-ahead
Leeds shows the way

Cambridge guided busway gets go-ahead

Following the Transport Secretary's planning go-ahead for the Cambridge guided busway, the County Council is pushing for a quick decision on funding for its £86M scheme. Britpave members Balfour Beatty are among those shortlisted for the design and build contract, for which the county hopes to complete advance procurement by the end of February.

In giving approval, Alistair Darling endorsed his inspector's verdict after a nine-month enquiry that the busway could increase public transport use by 24% in the A14 corridor by 2016. Almost 30% of passengers are expected to switch from cars, relieving the already severely congested main road.

The Transport Secretary made the point that new proposals to improve the A14 near Cambridge did not weaken the case for the busway, for which local bus operators are now being assessed.

Running from St Ives to Trumpington along 25 km of segregated route, this will be the world's longest guided busway, relegating that in Adelaide with its 12 km to second place. The inspector's report concluded that within 10 years of opening, the scheme could potentially exceed the county's target of 20,000 passengers a day.

The new route needs to be operational by the time the initial phase of 6000 new houses planned for a new development to the northwest of Cambridge is due to be completed in 2008.



Step barrier featured at Civils Exhibition

The Concrete Centre stand at Civils 2005 showcased several of Britpave's activities, including the step barrier and soil stabilisation

Leeds shows the way on guided buses

Bob Tebb of First Bus chaired the guided bus seminar held in Leeds on 8 November 2005.

Held in conjunction with The Concrete Centre, the half-day seminar provided an insight into the development of guided busways in the UK. It detailed progress on the Cambridgeshire Guided Busway project, and gave the results of recent studies into vehicle dynamics and construction tolerances. The afternoon was devoted to a tour of the Leeds guideway system hosted by Bob Tebb.

Discussion following the seminar showed that construction tolerances and build quality are still key issues for delivery of a successful guided busway project. Britpave's Rail Task Group is continuing work on the Guided Busway Construction Handbook, which will be published as a supplement to the Design Handbook later this year.

- Further details on the presentations made at the seminar can be obtained from The Concrete Centre, or contact heather.ceney@arup.com



Highways Magazine Excellence Awards

Concrete Step Barrier was shortlisted in the 'Innovative Road Safety Product of the Year' category. Pictured left to right: David Jones – Britpave; Steve Davies – Arup; Ian Reid – The Concrete Centre; Adrian Erwee – Peter Cole Consultants; James Charlesworth – Extrudakerb; Tim Gibbs – Fitzpatrick

... but the light rail gets a red light

Plans for light rail development seem to have hit a red light with schemes in Hampshire and Liverpool on hold because of rising costs. Extensions to existing schemes also look unlikely to get the go-ahead.

czech road construction

In August a group of Britpave members visited the Czech Republic hosted by Skanska (CZ) in conjunction with Gomaco to view a major motorway paving contract on the D11 motorway which is located 60 km east of Prague.

The concrete pavement is two-layer, jointed, unreinforced with dowel bars placed midway in the 300 mm slab. The lower concrete layer is 230 mm deep, topped by the upper layer of 70 mm. Maximum aggregate size in these layers is 32 mm and 20 mm respectively.

The concrete was produced by a German BHS twin-drum batcher rated at 200 m³ per hour. A high level of productivity was maintained – 300 linear metres per day – through a Gomaco 4000 paver set at 10.75 m wide especially for this contract.

It features automatic dowel insertion and has a Leica wireless control system fitted.

The Britpave delegation was impressed by the finish and smooth ride of the road surface.

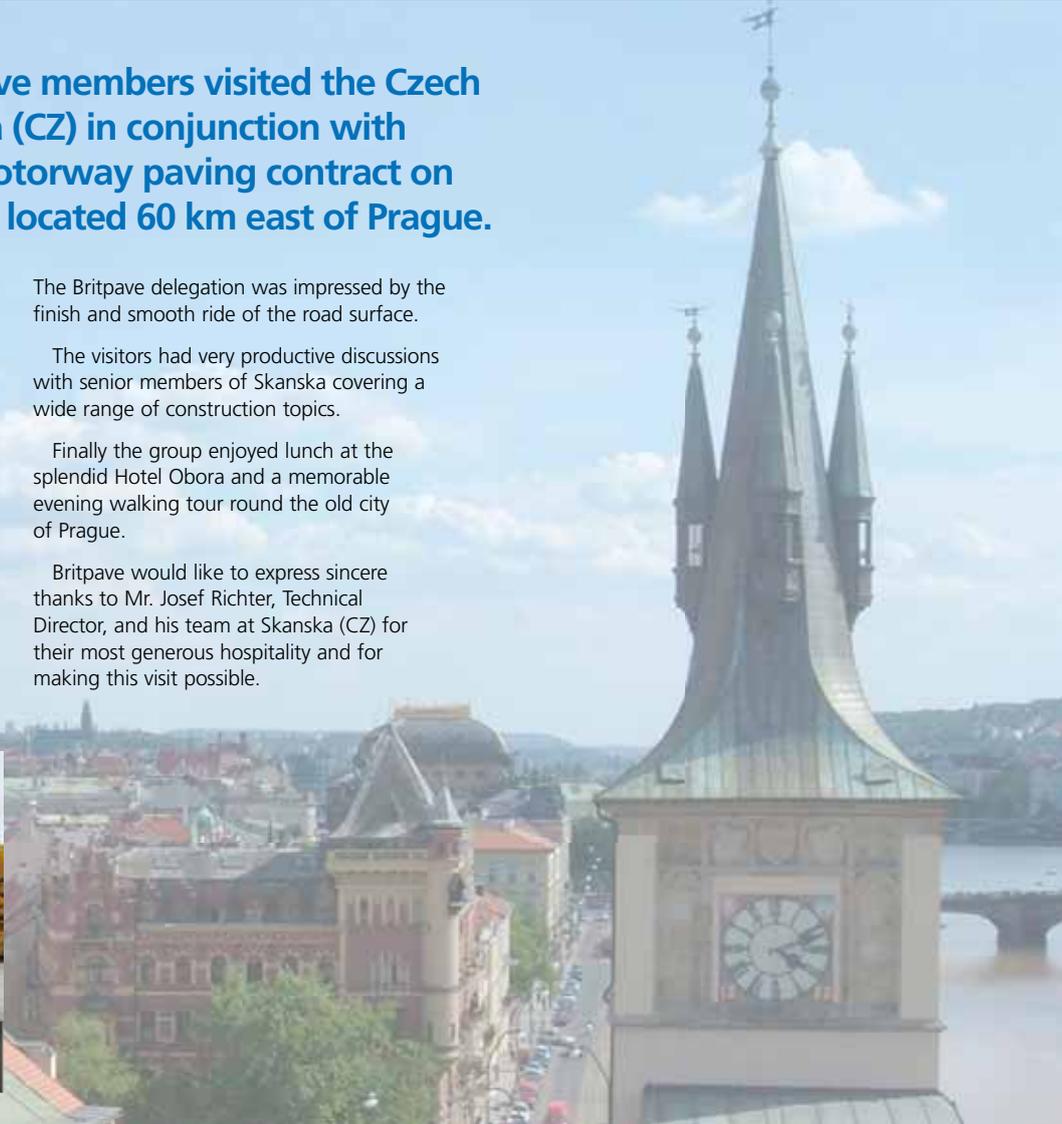
The visitors had very productive discussions with senior members of Skanska covering a wide range of construction topics.

Finally the group enjoyed lunch at the splendid Hotel Obora and a memorable evening walking tour round the old city of Prague.

Britpave would like to express sincere thanks to Mr. Josef Richter, Technical Director, and his team at Skanska (CZ) for their most generous hospitality and for making this visit possible.



The Gomaco 4000 paver at work on the D11 motorway



upgrading port hardstanding with rcc

Associated British Ports needed to upgrade part of the hardstanding at the port of Immingham that had failed. Rather than reconstruct the area it was decided to repair and regulate it with cement-bound material and then overlay it with roller compacted concrete.

The pavement laid by Britpave member, Roller Compacted Concrete Co, consisted of a 200 mm layer of RCC on a regulating layer of CBM of varying thickness. With a compressive strength of 70 MPA at 28 days, the RCC will be well able to withstand the sort of heavy duty use anticipated.

The programme had to suit the activities of a busy port and, as the company was already on site laying CBM, it was possible to change production to RCC. Up to 2000 m² were laid each day, minimising the period of disruption to the port's activities.

Top quality limestone aggregate was brought onto the site by train, so reducing lorry movement in the area.

■ For more information contact jpd@rollercompactedconcrete.co.uk



The new hardstanding at Immingham



Closeup of RCC surface

the way ahead is concrete

the 10th international roads symposium | brussels | 18 – 22 september 2006

Febelcem, Cembureau and Piarç invite you to take part in the 10th Anniversary of the International Symposium on Concrete Roads where the dominant theme will be the sharing of knowledge and experience.

A century of experience –

The tradition of concrete roads is a reality in Belgium and is still a source of inspiration today. That is why two of the four days of the symposium will be dedicated to technical visits to road works and various projects. During the two days of technical sessions, the dissemination of knowledge will also take centre stage amid the major chosen themes.

The way ahead is concrete –

Concrete roads fit perfectly into the context of sustainable development environmentally as well as economically. Building on past experience and daring to look ahead to the future: this is the challenge for all the participants in this symposium.

Themes of the symposium are:

Concrete roads and sustainable development

- Cost-effective long-life pavements
- Maintenance and rehabilitation
- Safety and environment

Urban pavements and rural roads

Topics include busways and tramways, cycle tracks and rural lanes.

Special topics

Topics include airport pavements, smart roads and industrial pavements.

Technical visits on alternate days will cover a variety of projects in both rural and urban environments – some will be experimental and some more than 30 years old.

For accompanying partners there are tourist visits to all parts Belgium. The official language of the symposium is English, which will also be used on the technical visits.

- For more information visit www.concreteroads2006.org



britpave in Scotland

The Carlton Hotel, Edinburgh, is the venue for Britpave's first Scottish event on 21 February. We look forward to the opportunity to introduce Britpave to Scotland and raise awareness of the topics promoted by Britpave, making sure the content is relevant to what is happening north of the border.

This event consists of a half-day Seminar ending with a drinks reception at 6.00 pm. Topics include:

- Introduction to Britpave
- Concrete in the Scottish roads environment
- Concrete step barrier
- Guided busways
- CBM for Scotland
- PFA in Scotland – an overview of new opportunities

This important event is by invitation only. Those wishing to attend should contact the Britpave office on **01276 33160**.



soil stabilisation & slipforming

stabilisation speeds the Baldock bypass



The picture shows a Wirtgen WR2500 operated by Britpave member, T E Beach, producing a subbase for main contractors, Norwest Holst. The site included both clay and chalk, and the mix of binders was adjusted to suit each 'host' material, working to a specification drawn up by Capita Symonds. If the bypass had been constructed in the conventional manner, the importation of some 95,000 tonnes of subbase material would have been required.

■ For more information contact Alastair McDermid at alastair@amcd.fsbusiness.co.uk

The zero landfill option

With stabilisation assuming greater prominence, Britpave has launched a website dedicated to the technique. Headlined as 'the zero landfill option' the site takes visitors through the technique and the benefits.

Benefits clearly flagged up include saving on money, time, environmental impact, waste and landfill tax. Britpave members using the technique are listed along with their contact details, and relevant publications are available for download. Visit www.britpave.org.uk or www.soilstabilisation.org.uk



Coming shortly...

Stabilisation case studies

A suite of soil stabilisation case studies is currently being prepared and will be available soon.

slipforming raised access for train repairs

SIAC Construction were approached in August 2005 by the main contractor (John Sisk and Sons) about the prospect of slipforming a load bearing plinth wall with a shape that from all accounts had never been produced before.

The structures are to provide raised access for the easy repair to the underside of trains. The reason for the shape is to ensure the lighting and utilities required would not cause obstructions and to maximise the works area.

Slipform works commenced on the 25 October 2005 once the concrete base and plinth reinforcement were placed by the main contractor.

The first run's line and level were taken off a string line as in the traditional method, while straddling the reinforcement for the second run. The second run was mirrored off the first by running the sensors off it. The variance achieved on the top of the wall was less than ± 5 mm.

The works were completed within the time allocated even though some fantastic Irish weather was encountered, including local flooding.

■ For more information contact Paul.Daniel@siac.ie

Location:	Kent Station, Cork City, Cork, Republic of Ireland
Client:	Irish Rail
Duration:	5 days
Scope of works:	2 x 210 metres of slipformed plinth wall
Equipment:	Wirtgen SP250
Concrete mix:	35N20 with fibre mesh



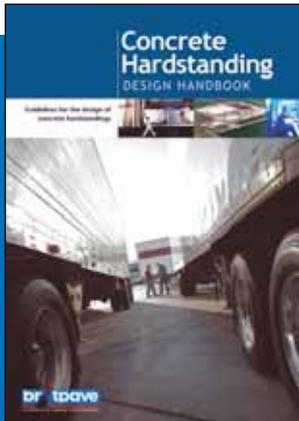
Slipforming the plinth wall at Kent Station



Nearing completion with the rails installed

new from britpave

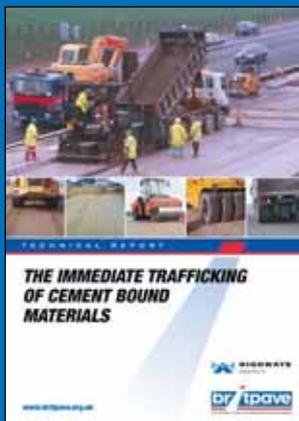
Hardstanding publication reviewed
Planned visits for Britpave



Concrete hardstanding: design handbook

This 48-page handbook has been prepared for designers, constructors, owners and operators of concrete hardstandings that are subjected to trafficking by heavy goods vehicles and forklift trucks. It explains some of the simple steps that can be taken to ensure that hardstandings perform well over the long term. The design methodology contained within the handbook incorporates the latest foundation classes developed by Highways Agency.

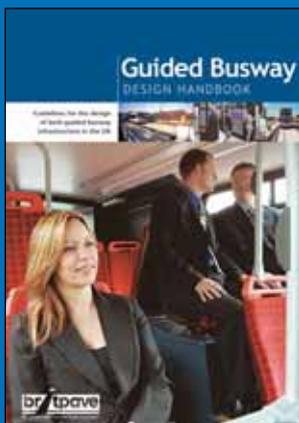
Ref. BP/17, price £60.



The immediate trafficking of cement bound materials

Reviews the results of a joint Highways Agency/Britpave project to examine the immediate trafficking of a range of cement bound materials. The report identifies those mixtures that can be trafficked early and those that require a curing period. It also gives specification guidance and recommendations for the immediate or early trafficking of CBM, and explains why certain types will be placed on a similar footing to asphalt and unbound materials.

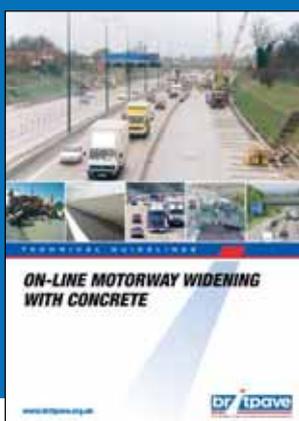
Ref. BP/14, price £10.



Guided busway: design handbook

These guidelines for the design of kerb-guided busway infrastructure in the UK set out best practice based on recent experience. Developed for Britpave by Arup with assistance from Britpave members, this 44-page publication covers relevant design standards and gives examples of existing schemes, providing guidance for the geometric design of the guideway, stops and pedestrian crossings. Other topics dealt with are loading to the guideway and structures, pavement design and safety issues.

Ref. BP/10, price £60.



On-line motorway widening with concrete

Produced to help with the implementation of the Highways Agency motorway widening programme, these technical guidelines explain the benefits of using concrete materials as part of an integrated design approach. Particular emphasis is given to the pavement layers, where new design guidance created the opportunity for maximising whole-life value. The benefits of using concrete to create truck lanes able to withstand heavy trafficking are explained.

Ref. BP/21, price £10.

Panel to review Hardstanding publication

A review panel is being set up to ensure that the next reprint of the Concrete Hardstanding Design Handbook incorporates the very latest changes to European standards.

Consideration will also be given to revising and improving certain sections where there has been significant comment from industry.

It is anticipated that the panel will commence its work soon with the aim of having the revised version of the Handbook available later in the year.

britpave plans visits to...

Russia for paving

Gomaco is hoping to facilitate a visit to Russia in June this year to see major airfield and road paving activity. Watch the Britpave website for the latest information. www.britpave.org.uk

Rail in Spain

A visit to Spain to see Rheda 2000 slab track being laid is planned for May. Nearer the time watch the website for the latest information or contact heather.ceney@arup.com

diary dates

Britpave: A Perspective for Scotland
21 February, Edinburgh

Britpave AGM
8 June, London

Britpave Conference 2006
25 & 26 September, Buxton (see page 8)

Concrete Roads Symposium
18 – 22 September, Brussels (see page 5)



The British In-situ Concrete Paving Association

the last word...

2006 conference moves to Buxton

This year's Dinner and Seminar will be held in the Peak District on 25 and 26 September at the Palace Hotel, Buxton.

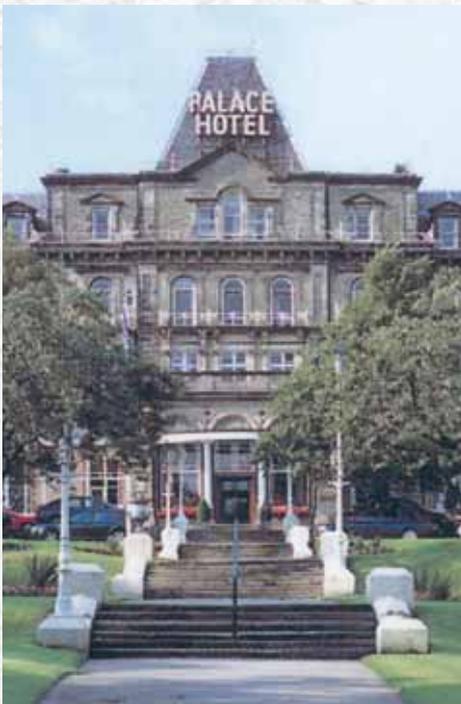
Easily accessible, Buxton is situated 25 miles from Manchester Airport for domestic and international flights. Buxton Station is just 300 yards from this town centre hotel, and offers links to Manchester Piccadilly and Stockport on the direct line to Euston.

The keynote speaker from the USA is Robert Garbini, President of the National Ready Mixed Concrete Association. His topic will be P2P – an initiative to move from Prescriptive to Performance.

Entertainer Tom Sutton has been booked for the Dinner, which is always an excellent networking opportunity within the industry.

The Britpave Golf Day will be held on Monday 25 September at the nearby Cavendish Golf Club.

■ Visit the Britpave website for updated information, www.britpave.org.uk



Fitzpatrick scores double first at Lakenheath

Fitzpatrick are carrying out a 25,000 m² concrete apron construction on behalf of Graham Contractors Ltd at RAF Lakenheath in Suffolk to a design by WSP. The apron services a new cargo handling facility for C130 aircraft.

An Elba-Werk ESM105 batching and mixing plant was established on the base by Fitzpatrick. The client wanted to maximise recycling of materials, and the principal example was to reuse as-dug sand arising from the pavement earthworks as aggregate for a hydraulically bound material (HBM).

This is believed to be the first airfield pavement where the subbase has been designed and laid to BS EN 14227: 2004. The HBM had a 28 day-strength requirement of 4.5 N/mm², which was met without difficulty.

The sand grading was very fine and the prepared formation proved to be highly susceptible to rutting. In order to prevent this, the 260 mm thick HBM was produced in two layers, the first being spread by an excavator, operating from an unprepared area, which was compacted by a self-propelled roller. On completion of rolling, the second layer was laid by a Titan 423 paver, which provided full compaction for the completed layer.

The pavement quality concrete has a design flexural strength of 4.5 N/mm² and incorporates 25% PFA in the mix, the first such use in a pavement built under the Defence Estates Specification 033. Most of the pavement quality concrete has been slipformed in bays 6.3 metres wide, using a Gomaco 2800 paver.

■ For more information contact tim.gibbs@fitzpatrick.co.uk

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