BRITPAVE® NEWS

britpave
The British In-situ Concrete Paving Association

A NEW CONCRETE TRACK FOR BRISTOL MOTOR SPEEDWAY USA.

Full story to follow in the next issue of Britpave News.

Photo courtesy of Bristol Motor Speedway/CIA

DIARY DATES

- 2008 Britpave Conference: 29th & 30th September - Stratford-upon-Avon
- Road Expo Scotland: 5th & 6th November - Edinburgh

Distributed to 10,000 readers!

WELCOME

Contents

Editors Note

Dear Member,

Welcome to the 17th Edition of Britpave News. It has been a busy start to the year.

There have been lots of exciting developments in all areas of Britpave activities and these have made for another informative newsletter. Thank you to all those who have contributed time and effort. Without your help it wouldn't be possible, so please keep your stories rolling in.

I would like to extend a warm welcome to our new members. It's always interesting to meet new organisations and hear what is going on within their businesses, and I look forward to successful partnerships with them. You will be pleased to know that preparations are well underway for the Britpave Annual Seminar on 29th and 30th of September, in Stratford-Upon-Avon, and we will shortly be issuing the programme. You can also book your place using the form within the newsletter and as always I look forward to seeing you all there.

Best regards

David Jones
Director of Britpave

Corrections and Clarifications

It is the policy of Britpave to correct significant errors as soon as possible. Readers may contact the office on: info@britpave.org.uk.

Please quote the issue number and page.

1) The article 'Slipforming in Ireland' was included in Issue 16 as a personal view of the market as seen by Power Slipformers. It was not intended to be seen as a definitive statement of paving in the Irish Republic. The advertisement below the article can be construed as misleading in that Ascon are not members of Britpave and have not paved Britpave Step Barrier®.

2) As from this issue all advertisements will be marked as such as to clearly identify paid for contribution

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The trade marks Britpave® and Britpave Step Barrier® have been registered with the Trade Marks Registry. This protects the use of these words and makes it easier to defend what has become an important brand. People cannot use our trademarks without our express permission. If someone deliberately uses our registered trade marks, without our knowledge or comment, they may be guilty of the crime of counterfeiting.

Britpave News is published regularly by Britpave with the aim of keeping members up to date on Association matters, industry developments and member company news and views. Please help keep us in the picture on all of this by sending us any relevant information that you feel may be of interest to the membership.

NEWS ROUND UP

Best Practice for Concrete Pavements in Highways and Airfields

The First Britpave Technical Seminar was held in Central London on 4th June 2008 and over 80 people attended. It was pleasing to see such a wide cross-section of members represented. The organisations that attended were:

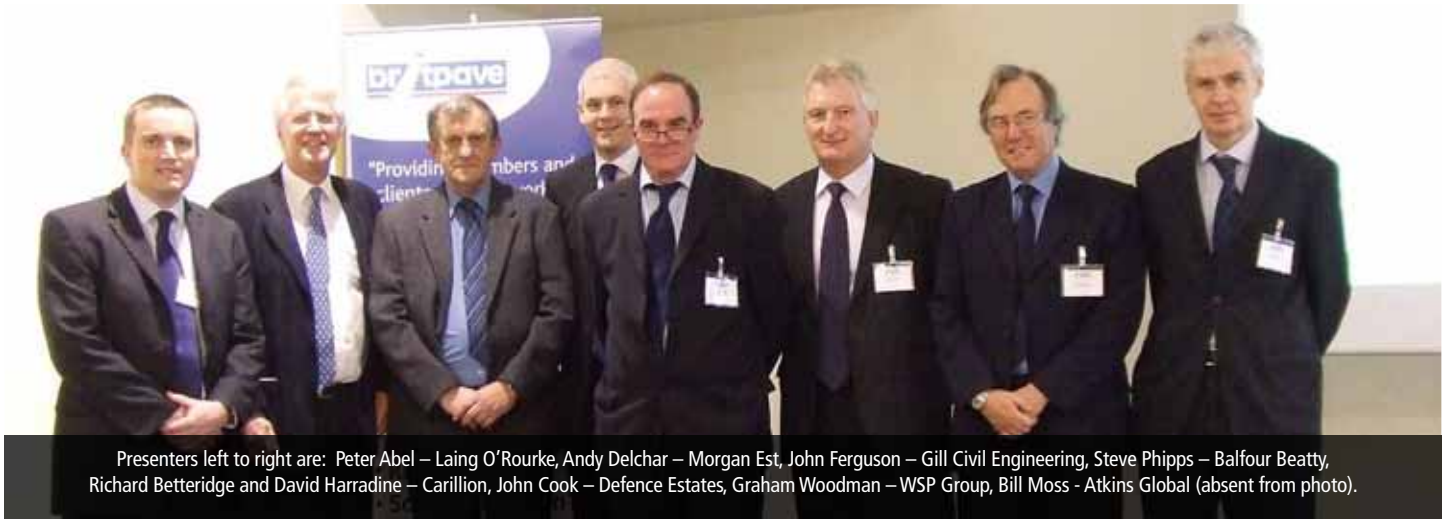
- Airside Installations Ltd
- Atkins
- Balfour Beatty
- Birse Civils Ltd
- Carillion plc
- Castellan Group Ltd
- Cemex
- Dublin Airport Authority
- Edmund Nuttall ltd
- Fitzpatrick Contractors Ltd
- Halcrow Group Ltd
- Halcrow Yolles
- Hanson Aggregates
- Hanson Premix (SW)
- Highways Agency
- Hyder Consulting
- Jacob Uk Ltd
- Jacobs Engineering Group Ltd
- JK Pavement Consulting
- Lafarge Aggregates Limited
- Lagan Construction
- Laing O'rourke Plc
- Morgan Est
- Mott MacDonald
- Mott MacDonald (Group HQ)
- MSC
- Private Individual S
- Roller Compacted Concrete Ltd
- RPS Burks Green
- Select Plant Hire
- SIAC
- Skanska Construction UK Ltd
- Smith Construction
- Tecroc Products Ltd
- The Concrete Centre
- TPS Consult
- TRL Ltd
- WSP Group
- Defence Estates
- Gill Civil Engineering

Richard Betteridge – Carillion

The aim of the Seminar was to give civil engineers, contractors and designers a practical understanding of how to achieve pavement quality concrete solutions in airfield and highways applications.

Some of the topics covered included design considerations, material options, managing transportation and delivering long-lasting, low maintenance solutions, all presented by industry experts with "hands on" experience.

Britpave received a lot of positive feedback from attendees and the speakers are keen to run another event, so watch this space!!!!!!



Presenters left to right are: Peter Abel – Laing O'Rourke, Andy Delchar – Morgan Est, John Ferguson – Gill Civil Engineering, Steve Phipps – Balfour Beatty, Richard Betteridge and David Harradine – Carillion, John Cook – Defence Estates, Graham Woodman – WSP Group, Bill Moss - Atkins Global (absent from photo).

EUPAVE
EUROPEAN CONCRETE PAVING ASSOCIATION

EUPAVE'S STRUCTURE

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EUPAVE GETS TO WORK

Eupave, the European Concrete Paving Association, was formed in 2007 with the objective to promote all cement and concrete products within transport infrastructure markets. Britpave is one of the founder members of Eupave.

Eupave draws its members from National associations and organisations, cement companies, specialist equipment companies and suppliers.

Its Activity Areas are:

Sustainable Construction
Roads
Concrete Paving in Tunnels
Heavy Duty Pavements for Ports and Industries
Airfields
Bus and Rail
Urban Areas
Soil Improvement and Stabilisation
Base and Sub-base layers
In-situ Pavement Recycling
Concrete Paving Blocks, Flags and Other Precast Elements
Safety Barriers
Noise Reduction Devices
Kerbs and Gutters

Recent Lobbying Activity

3rd June - Reception in European Parliament

As one of Eupave's objectives is to become an influential body involved within European initiation and research program, an early meeting with MEP's and Commissioners was arranged by Alonso Association on behalf of Eupave. At a reception and lunch, members of European Board gave short presentations to the guests, who welcomed the opportunity to meet and discuss collaboration ideas. Short introductory speeches were given by European President Aniceto Zaragoza and it's Managing Director Jean-Pierre Jacobs, Mrs Inés Ayala Sender (Spain) member of the Commission for Transport responded and David Jones - Vice President, summarised and closed the proceedings. Further meetings are planned.

Those present from the Parliament and Commission were:

- Mrs. Inés Ayala Sender (Spain), member of the Commission Transport in the European Parliament;
- Mrs. Etelka Barsi-Pataky (Hungary), member of the Commission Transport in the European Parliament;
- Mr David Catot, member of the Transport Committee
- Mr Henri Malosse, President of Group I – Employer's group at the European Economic and Social Committee (EESC);
- Mr Alfonso Gonzalez Finat, Principal Advisor at the Directorate-General Transport & Energy (DG TREN) of the European Commission;
- Mr Vicente Luque Cabal, Deputy Head of Unit Trans-European Transport Network Policy at the DG TREN of the European Commission;
- Mr Gordon Buhagiar, Permanent Representation Malta;
- Mr Jesus Izarzugaza, Permanent Representation Spain;
- Mr Pawel Rosicki, Permanent Representation Poland.


Aniceto Zaragoza


Jean-Pierre Jacobs


Mrs Inés Ayala Sender


Mr Pawel Rosicki with David Jones

Eupave is the official organiser of the 11th internation Symposium on Concrete Roads, to be held in Seville in 2010. It has taken ownership from Cembureau who co-organised the Belgian edition of this Symposium together with Febelcem in Brussels in 2006.

BRITPAVE® STEP BARRIER

New Research Dismisses Impact Injury Concerns

New research has corrected the mistaken belief that the robust resilience of concrete safety barriers has the potential for greater impact injury compared to other barrier types. In fact, reports David Jones, director of Britpave, the transport infrastructure group, the impact injury potential is no greater than for the steel barrier. Furthermore, concrete offers unrivalled safety benefits such as the containment of larger vehicles and the elimination of the need to expose maintenance crews to danger when repairing certain barrier types.

According to the Police STATS19 database, between 2001 and 2005 on UK motorways and A roads there were 201 cross-over accidents and 251 casualties as a yearly average. Accidents are defined as cross-over accidents when there is either no barrier or when the existing barriers fail to prevent a vehicle from crashing through the central reservation and ending up in the path of oncoming traffic. Figures show that fatalities and serious injuries are twice likely to occur in a cross-over accident involving errant vehicles than in those accidents where vehicles have been contained.

The majority of existing barriers on the UK's roads are designed and tested to the N2 containment standard, which means that they are capable of containing a 1.5 tonne car. However, out of all vehicles involved in cross-over accidents, 76% were cars and over 90% weighed less than 7.5 tonnes. The concrete step barrier is designed and tested to the H2 containment standard, which means that it is capable of containing vehicles of up to 13 tonnes in weight.

With such dramatically increased containment levels, the concrete step barrier has the potential to prevent the vast majority of cross-over accidents from occurring in the first place. However, it has been argued that this benefit gained is at the expense of a potential increase in impact injuries due to the rigidity of the barrier.

In order to test this theory, Arup, the internationally renowned consulting engineers, in late 2007 examined the evidence from three crash tests and 50 computer simulations covering a range of impact conditions similar to the EN1317 tests – the European containment standard for road barriers. Under EN1317 test criteria, a 900kg vehicle is crashed into the barrier at a 20 degree angle at a speed of 100km/h so as to determine the ASI (Accident Severity Index) and THIV (Theoretical Head Impact Velocity).

For the study, several Sukuki Swift cars equipped with Hybrid III crash dummies were crashed into a concrete step barrier at speeds ranging between 109km/h and 113km/h at angles between 15 degrees and 20 degrees. The results were extrapolated to higher and lower speeds and angles, and different vehicle conditions and occupant positions, using state-of-the-art computer simulation. This series of crash tests was carried out in this way to cover a wide range of real-life accidents.

The measurements taken from the dummy's head, neck and other body regions were compared directly against those taken from human volunteer testing, against limits deemed acceptable for injury obtained from published research and against EuroNCAP (European New Car Assessment Programme) assessment protocol.

The resulting injury measurements were plotted against ASI and THIV to determine safe parameters.

The tests revealed that the difference between a high Class B (ASI 1.3-1.4) and a low Class C barrier (ASI 1.5-1.6) is negligible in terms of injury. In all crash tests where the THIV was below the 33km/h EN1317 limit, the levels of injuries measured were below the tolerable thresholds for injury.

As expected, the crash tests showed that the risk of injury rises in correlation with the level of accident severity, where the head and neck are most at risk. However, many vehicles are fitted with inflatable head protection devices, such as curtain airbags. These drastically reduce the severity of head and neck injuries during typical impacts with barriers.

These scientific findings prove that the concrete step barrier is a better choice for the central reservation than the steel rails typically installed on our roads. In both cases the potential for impact injury is similar in typical glancing collisions, yet the main advantage of the concrete step barrier over most other systems is that it can prevent most vehicles from crashing through the central reservation into oncoming traffic with obvious disastrous consequences.

To cite ASI as the sole criteria for barrier selection is disingenuous, for the research undertaken proves that small differences in ASI are not significant in terms of potential for injury. Other safety criteria, such as the ability to contain larger vehicles and the elimination of the need to expose maintenance crews to danger when repairing certain barrier types, should be considered as well as accident severity.

■ For more information: www.britpave.org.uk

New Wirtgen slipform paver SP 1200: High paving performance, economic operation

With the new SP 1200, Wirtgen GmbH adds a new specialist for concrete slab paving to its comprehensive product range. The modern product portfolio comprises now a total of 10 flexible slipform paver models in all performance classes and for all types of applications. Standard paving widths range from 1m to 16m.

The new SP 1200 is a slipform paver for paving concrete slabs at a minimum working width of 3.50 m and maximum working width of 12m. Standard paving thicknesses of up to 450mm are possible. The powerful, sound-insulated diesel engine with EPA III standards and a rating of 224kW permits high daily production rates. The outstanding economic efficiency of the new Wirtgen machine is based on a flexible machine concept that includes minimum time requirements for machine conversions, modular extension options, as well as ease of maintenance.

A particular highlight is the paver`s clever self-loading dowel bar unit which rules out the need for any kind of expensive cranework during dismanteling or assembly activities. This equipment feature enables convenient loading of the machine in next to no time at all, reduces the transport cost and guarantees easy and quick operational availability.

Broad range of applications for the new SP 1200

A machine of the medium-size class, the SP 1200 is an ideal candidate for paving all types of concrete slabs. The main fields of applications of this "mobile road construction plant" are the slipforming of urban roads, motorway and airport construction and the paving of hydraulically bound base layers.

The field-proven SP 1200 meets all demands when it comes to flexibility of application. Its hydraulically telescoping machine frame enables paving widths between 3.50m and 8.0m to be realized with the basic equipment packages. The range of concrete paving applications is broadened even further by means of optionally available extension elements. The system`s modular design then permits paving widths of up to 12m. Simple modification makes sure that the machine will be ready for the next job in minimum downtime.

The machine`s excellent manoeuvrability is ensured by four individually and hydraulically driven crawler track units that can be rotated individually by up to 90°.

Finishing beam and super smoother are part of the paver's standard equipment. Dowel bar inserter, side tie bar inserter and longitudinal joint bar inserter are available as optional equipment modules.

■ For more information: www.wirtgen-group.com
Claudia Fernus, T: +49 2645 131 744, E: presse@wirtgen.de

The SP 1200 working a nightshift during a highway project in India. The intelligent concept enables easily adaptable width changes: the telescoping machine frame can be extended further due to its modular design.

The state-of-the-art design of the new SP 1200 guarantees high daily production rates: the SP 1200 paving a ring road in Mexico City.

BRITPAVE® STEP BARRIER

Britpave Step Barrier® in Ireland

Ireland's National Roads Authority (NRA) took a bold step four years ago to incorporate the Dutch Concrete Step Barrier into its Road Construction Details, thus making available a viable low maintenance H2 containment option. With the PPP type of contract becoming the norm on green-field road projects in Ireland, the reduction of the central median and the narrowing of the road footprint made it an exciting prospect for contractors.

However, once the NRA Concrete Step Barrier (CSB) was put into practice a number of fundamental problems were discovered.

The minimum embedment into the carriageway is 60mm; the road make-up of a typical Irish road requires the contractor either to plane a groove out of the blacktop or add another 40 -50mm to the barrier height.

Another initial problem was the overseeing of quality and the ensuring of good working practices in barrier production. A number of contractors invested in slipform pavers thinking that CSB was (to coin an Irish phrase) 'A Handy Number'. Subsequently they would realise that this was not the case, and many kilometres of barrier were taken out at great cost to the barrier producer.

Meanwhile on a very similar time-line, Britpave acquired the Dutch CSB rights for the UK. With foresight and the hard work of many people in Britpave not only was the Surface Mounted Barrier born, but more crucially the controls were created to ensure quality and consistency of product. The two main ways of achieving this are: through a well-compiled set of Britpave Construction Documents, and an audited license scheme ensuring that the Highways Agency and the Main Contractor will receive the product they expect and for which they pay.

Wirtgen SP 500 working on the M50 Dublin placing surface mounted barrier - Picture by Avonlake Media

Two years ago, with Britpave successfully crash-testing the surface mounted version, the relationship with Ireland began.

With the help of SIAC Construction Ltd, who are longstanding Britpave members, a meeting was arranged between Britpave and the NRA to discuss the prospects of placing Britpave barrier in Ireland. With strong leadership and a progressive approach by the NRA the Britpave system was accepted as an 'approved system of works'. The placing of the Britpave product in the Republic is achieved on each contract by a Departure from Standard Application to the NRA made by the Main Contractor's designers. It has been accepted that the same criteria will apply to Ireland as to the UK in all aspects including the licence arrangement.

The advantages of using the Britpave Surface Mounted Barrier versus the NRA Concrete barrier are easy to see.

Primarily it enables the increase of production; this is due to the slipform contractor being able to tie into the regulating course using less concrete and consequently having reduced setting out requirements.

Advantages to the Main Contractor apart from direct cost savings include: the barrier can be taken off the critical path when planning works, as it can be placed directly onto the wearing course; reputable technical backup and the guarantee that experienced audited contractors will be placing the product means quality control is at the fore-front; and the 'departure procedure' mechanism allows the NRA to have the ultimate say on the product being placed on Irish roads.

With the broad range of products and the quality of the details provided in the Britpave drawings and guidance notes, Main Contractors are now applying to use not only the CSB but many of the other drawings and details provided.

Contracts that are currently using the Britpave Barrier in Ireland include N8 Cashel to Cullahill, M50 Phase 1, N4 Lucan By-pass and M50 Phase 3.

For more information:
Paul Daniel SIAC, E: paul.daniel@siac.ie

Britpave Step Barrier®
Not just for Motorways

Designers Atkins identified that Britpave Step Barrier® provided their Client the London Borough of Merton with the ideal solution at Bushy Road exit slip road off the A3 trunk road where the existing P2 steel parapet required replacement.

Although a relatively small application of the product the tight curve of the road presented Britpave Licensed Installer Extrudakerb with more than a little food for thought.

The company normally operates its fleet of Gomaco Commander III slipform pavers in a 4 track configuration but it was felt the 17m radius was too tight for such a large track base. The paver was therefore stripped down to its basic yet more agile 3 track mode for this project.

The main contractor for the project was F M Conway Limited and concrete was supplied by Lafarge Readymix.

- For more information:
  James Charlesworth, E: james@extrudakerb.co.uk

The GOMACO Commander III

The World's Most Versatile Slipform Paver

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RECREATIONAL TRAILS | SAFETY BARRIER | BRIDGE PARAPET | BRIDGE DECKS | IRRIGATION CANALS

SPECIALIST APPLICATIONS

A View of Drainage Systems from Power Slipformers

Although the slipforming of various types of drain has been a successful system used for some considerable time, there seems to be a lack of appreciation among specifiers as to how useful and time saving the slipforming of the various drain systems can be.

The main slip formed items are slot drain, kerb slot, combined kerb and gutter, gulleys and tube drain up to 700 mm diameter. Kerb and Gutter systems have been the standard system for most roads in the USA for many years but do not seem so popular in the UK.

Gulleys of up to two metres wide have become more popular along major roads and sides of central reservation barriers, where traffic is not likely to run on it. It is particularly quick to lay with a slipformer when compared to precast sections. As with all drainage, the grading is very important to ensure water flow. Careful preparation of the grade by using a full width rotating trimmer on the slipformer ensures the best results and reduces concrete waste.

Where concrete safety barrier is being laid on motorways and often on dual carriageways, slot drain is the preferred type of drainage. Two main systems are in use on slipformers, the towed torpedo system and the Gaine CF inflated tube. The Gaine tube gives the best results and allows greater flexibility in the slump of the concrete used. It is passed through the drain mould and laid out in front of the slipformer. The tube is inflated by a small constant pressure compressor and the concrete laid over it. The tube is deflated and pulled out when the concrete has set. The tube gives constant support to the drying concrete helping to give a smooth inner profile and preventing the two sides of the slot from collapsing. The tube is available in sizes from 200 mm to 700 mm in diameter. It can be laid within reinforcing cages on the larger sizes and combined with a kerb where necessary.

- For more information:
  Bryan Hebble-Thwaite, T: 01524 762762
  E: bryan@powerslipformers.com

Combined Carrier Drain & Channel Scheme

Construction of a Highways Agency developed combined carrier drain and channel is featured within Britain's first car share scheme. The £5.3 million initiative 1.7 mile long lane aims to cut the average peak-time journey by eight minutes for drivers using the M606 and M62 between Bradford and Leeds, in West Yorkshire.

The design and build scheme undertaken by Balfour Beatty features an 800mm wide by 950mm deep insitu concrete combined carrier drain and channel slipformed by specialist contractor Extrudakerb. Concrete was supplied by Cemex and the project was undertaken at night under tidal traffic management so as to mitigate any disruption to the traveling public along this busy stretch of motorway. Productivity exceeded 15m^3 per hour.

The system is featured within the Design Manual for Roads and Bridges, Part 6, HA113/05 and represents something of a hybrid surface water channel and slot drain.

Like a slipformed slot drain the internal carrier pipe is constructed by slipforming over an inflated tube. All of the inflatable void former used by Extrudakerb to construct both slot drain and combined carrier pipe is provided by Britpave member Interface Developpement.

The diameter of the carrier drain is typically 300mm but can be up to 400mm. The overall size of the drain is proportionate to the diameter of the drain and guidance is provided within the design document as to the relationship between drain and product sizes.

Design of outlets and associated works are included within HA113/05.

Combined carrier drain and channel provides a large hydraulic capacity with a narrow footprint making the system particularly attractive where space is limited. The system should be considered within Active Traffic Management schemes, road widening and adjacent to concrete barrier.

- For more information:
  James Charlesworth, E: james@extrudakerb.co.uk

ROADS

DfT Green lights hard-shoulder running

The Government has paved the way for the introduction of hard-shoulder running on 800 lane kilometres of England's motorways, including sections without planned widening schemes.

Announcing the feasibility study into extending hard-shoulder running, transport secretary, Ruth Kelly, distancing herself further from national road user charging, calling for 'more immediate and pragmatic' solution to reduce congestion. The study recommend rolling out hard shoulder running to most sections of the M1, M6 and M62 where there are planned widening schemes, but also locations such as the M27 around Southampton, the M5/M5 Bristol and the radial routes around the M25, where there are no planned widening schemes.

The study found that the cost ratio benefit is 'significantly higher' for hard shoulder running than planned motorway widening – 7.6 against 2.3 – with the former option able to achieve most of the benefits of most planned motorway widening, but at significantly lower cost. The impact of hard-shoulder running on traffic emissions is also likely to be less than the impact of road widening.

Announcing the report, transport secretary, Ruth Kelly, said there was also a 'compelling argument' for additional High Occupancy Vehicle lanes, which could also be open to single drivers willing to pay a toll. 'Allowing motorists to enter a reserved lane if they are carrying passengers or willing to pay a toll gives them a real choice without having to change their route, ' she said. 'These are ideas that I want to explore further with road users as we work towards a Green Paper before the summer.'

The first HOV land in England is set to open at the M606 and M62 junction south of Bradford. The study said around a dozen sites have been identified, and recommended further work to validate their potential. It also recommended further work to explore the potential of tidal flow schemes to reduce congestion at peak times.

The transport secretary also announced a further four years of Transport Innovation Funding, to extending the availability of the fund to 2018/2019.

Article Courtesy of Surveyor Magazine

Colin Rushmere – BSI Team Manager, David York – Managing Director and Andrew Smith – General Manager

Ballast Phoenix Ltd accredited

In February 2008 Ballast Phoenix Ltd were accredited to BS EN ISO14001: 2004 with BSI Management Systems. The scope covers all the company's operations including it's five processing sites around the UK.

Managing Director David York receives the Certificate of Registration from BSI Team Manager Colin Rushmere with his congratulations. David York sees this achievement as a clear demonstration of the company's commitment to sustainable practice and environment protection.

David York is the current Britpave chairman.

Special Mix Resists Impact & Abrasion

5 years ago the Otterburn military training facility called for extensive upgrading of 60km of blacktop roads for strengthened and widened carriageways with passing places and junctions, the construction and upgrading of 20km of stone tracks, 46 hard-standings from which to fire guns and rockets, and 6 stoned hide areas for support vehicles. In addition a new central maintenance facility and large parking area was provided and all this is a located within the Northumberland National Park, an area noted for its beauty and ecological diversity.

For this reason, disturbance of the land had to be kept to an absolute minimum and the roadside verges and any unavoidable dame to the ground had to fully reinstated using the original soils seeded to an approved specification.

The project team, including White Young Green, Mowlem Civil Engineering and Tarmac, started the project in late Spring 2003 with a completion date of Spring 2005.

A site-batched concrete plant was set up for the required 40,000m3 of concrete. The plant was specially modified with a microsilica weighing pot. Material was supplied via road tankers from the Elkem storage facility in Boston, East Anglia.

The concrete used was Toproc SY. In total some 18,500m2 of concrete containing microsilica was used. This high strength microsilica concrete has extremely high abrasion and impact. A coloured Toproc mix in Raven Grey reduced the visual impact of the new surface. To date, all the concrete is performing well.

■ For more information:
John Finch, E: john.finch@elkem.no

RAIL

Innovative elastic rail fastening systems for slab track application

The construction of a non-ballasted track offers the possibility of realising demanding track geometries, narrow line layouts and high cants. The low construction height of slab track offers an especial economic solution for tunnel and bridge structures.

But concrete is solid and the usual elasticity of the ballast bed is lacking, however, high permanent dynamic elasticity is indispensable for a low-maintenance track with high availability. Otherwise an increased amount of wear, wave corrugation and head checks can be expected. Furthermore higher vibration velocity and problematic secondary rail deflection between the rail seats will occur. These mean high technical requirements for fastening systems. The components of the fastening system have to adapt to the high movements in the system, which has to be provided stable, long-term and under various loading and temperature and environmental conditions.

These "small details" are vital for problem-free train operation, and great attention is paid to them in the tested-and-approved rail fastening systems available today.

Fig.1 : System 300 on high speed line

The Vossloh Fastening System 300 has been used on slab tracks since 1987. The elasticity of the ballast bed is simulated by the high-elastic intermediate plate. A stiffness of the elastomer of = 22.5 kN/mm is necessary for the requisite rail depression in the track construction of approx. 1.5 mm. Rail tilting and overload of the extremely soft elastomer is prevented by a pressure distribution pad, with the rail resting on with interposition of the rail pad. The dynamic live loads are transferred to the elastomer over a large area. At the same time, a long service life of these very soft intermediate plates is obtained through a reduction in the surface pressure. The Skl 15 tension clamp with the very high fatigue limit of at least 2.6 mm permanently tensions the rail, so that it is force-closed with the concrete base surface. Lateral and especially height adjustment for the rail are indispensable criteria for use in the slab track. Apart from quick installation, the permanent stability of the respective adjustment is of functional importance for high-speed operations in this respect, since maintenance-free operation of the track can only be guaranteed by this means. As a result of diverse settling problems arising in the slab track, the rail fastening system 300 has been further developed by extending the possible height adjustment to -4/ + 76 mm. A stable lateral adjustment of ± 8 mm in the support resp. ± 16 mm in the track gauge has been standard for many years, by the angled guide plates which form an exact rail channel as well. The Vossloh rail fastening system 300 is normally used on cast-in concrete sleepers or profiled concrete supporting plates. Another very positive advantage is that all components, including the cast-in insert with its external thread, can be exchanged very easily.

Fig. 2: System 300 with 76 mm height regulation

For installations on level slab the fastening system DFF 300 can be used. In this case, a steel frame permanently screwed to the slab assumes the function of adaptation to the base surface and accommodates the rail fastening system 300 described above. The frame enables an additional adjustment of the track gauge of ≥ ±40 mm.

The System DFF 300 can also be used as a rehabilitation system if a repair between the existing sleeper contours is necessary. It has also been certified by Deutsche Bahn AG for this use.

Fig. 3: System DFF 300

In order to enable integration of a rail fastening system which offers uniform requirements through out switches and crossings, the System 300 W has been developed. The fastening integrates components standard track.

The above mentioned fastening systems have the elasticity required for mainline slab tracks and high speed lines. The integrated elastomer and its design are of enormous importance, particularly in the case of the slab track, which has to perform without the "elasticity" of the ballast. As exemplary tests of two different stiffnesses have shown, the rail depression can be increased by 20 % and the dynamic wheel/rail contact forces reduced by more than 50 % by means of an elastomer with a dynamic stiffness of approx. 26 kN/mm compared to 45 kN/mm. Consideration of the insertion loss also shows significant differences in this respect.

Reduction of vibrations and maintenance of the track, especially in sometimes difficult surroundings, is important on high speed lines but just as much on the tracks in and under our cities.

The experiences from the main line tracks are integrated in developments of fastening systems for tram and metro lines. Further slab track fastening systems for the installation with sleepers as e.g. Systems 300 UTS or System W25 DD or on level slab as e.g. System W-Tram, are available for light rail applications.

- For more information:
  www.vossloh-fastening-systems.de
  Vossloh Fastening Systems GmbH,
  Vosslohstrasse 4, D-58791,
  Werdohl, Germany

Fig .4 : System 300 UTS

Fig.5: System W-Tram

Heavy Load, Concrete Road

Admirable foresight was demonstrated in the planning of Britain's post-war recovery as shown in this photograph of a Liberation class 2.8.0 locomotive, the transporter carrying it and also the A580 road being travelled. The picture was taken in 1946. The loco was one of 25 from the Vulcan Foundry at Newton Le Willows sent to Poland, Yugoslavia and Czechoslovakia; largely at the behest of British intelligence which predicted during the war extreme difficulties for East European railway systems once the Germans pulled back. The transporter tractor – a solid tyred , chain driven Scammell – was one of a number ordered by specialist haulier Edward Box. This company in the mid 1930s was anticipating movement of heavy loads to Liverpool's huge new dock along the East Lancs Road (A580), which had been built wide, in concrete and with sufficient head room to suit. **Robert Baldwin**

New High Speed Link Is Essential

New plans for a high speed rail route linking London with Glasgow have been forwarded by a new report by consultants Atkins. The new line is required to prevent chronic overcrowding on the rail network that could result in the network becoming unmanageable in as little as ten years.

The report builds upon work previously carried by Atkins between 2001 and 2003 on behalf of the now defunct Strategic Rail Authority. This found that rail capacity could be exhausted far quicker than the government is anticipating, making the planning of a new high speed line a matter of urgency.

The new plans outline a link from London, through the East Midlands and connecting with the East Coast Main line in Yorkshire and then onto Newcastle, Edinburgh and Glasgow. It is estimated to cost £31 billion and would generate economic benefits of over £60 billion over 60 years. Using the Department for Transport's standard growth forecasts, Atkins believes that the new high speed link would be required by 2026 but using the growth forecasts of the train operators it will be needed considerably sooner than that. In that case planning for the new link is required sooner rather than later.

SOIL STABILISATION

Road Recycling - A Sustainable Solution

Cambridgshire Highways – the County Council's highway service and its term maintenance service partner Atkins – have opted to in-situ recycle a 2km stretch of the B1040 at Ramsey St Marys.

In-situ recycling was seen as providing the better solution over traditional reconstruction – where the existing material is excavated and replaced by new materials – and over ex-situ or off-site recycling – where the existing material is removed to a mobile mixing plant for blending prior to being returned to site. The newly in-situ recycled section will have a design life of 20 years for 5M standard axles.

In-situ recycling offered particular benefits to the project. "In-situ recycling offered significant time and cost savings compared with other approaches", said Stephen Douglas, Cambridgeshire Highways West Area maintenance engineer. "Furthermore, it lends itself to this site and allows residents to use the surface safely at the end of each day during all phases of the project. Ex-situ would have needed an area for the material processing plant. This was not possible with the site being so close to the River Nene".

"The in-situ recycling technique is also far less disruptive to local traffic and produces a significantly lower carbon footprint", added Schemes Manager Dan Crawshaw. "Normal full depth reconstruction taking out the damaged pavement and bringing in new materials would have called for some 440 20t lorry movements. Ex-situ would have required 600 lorry trips." The in-situ method only required 30 lorry trips for the entire recycling operation. It's sustainability credentials are further underlined by the fact that ins-situ offers a 14 – 20 reduction in the tonnage of carbon dioxide produced without even accounting for the CO2 emissions that would have resulted from the quarrying for new materials required for traditional reconstruction.

The in-situ deep and cold recycling process involves pulverising damaged or failed road pavements to depths of up to 320mm with a special rotovating machine and mixing in specific quantities of either lime, cement, pulverised fuel ash, bitumen emulsion or foamed bitumen. The revitalised mixture is then rolled, re-profiled, re-rolled and overlaid for a fast return to traffic.

The recycling was undertaken by Leicestershire-based Stabilised Pavements Ltd (SPL) using a German Wirtgen WR2500 Recycler. "The Wirtgen 2500 can pulverise to full depth while simultaneously delivering accurately metered quantities of water, bitumen emulsion or foamed emulsion into the mixture to strengthen and rejuvenate damaged pavements", explained SPL's director Gerry Howe. "On this project rather than bitumen we used a blended Ordinary Portland Cement (OPC) and carried out a lot of sampling and testing to ensure the correct recipe for the repair".

The road was planed off an initial 1000mm to accommodate the new wearing course. The Wirtgen 2500 then pulverised the road to the full 250mm treatment depth. The Wirtgen's drum cutter was pushed into the worn-out pavement to full depth and the machine made a climbing cut leaving a 2.5m wide pulverised swath of material in its wake.

A motor grader followed on re-profiling the pulverised material which was then lightly compacted with a Hamm HD90 double drum vibratory roller. A blanket of OPC was then spread to a ratio of 6% by volume of the material's dry density. The Wirtgen mixed the cement into the pulverised material to the full 250mm treatment depth. At the same time, water to the ratio of 4% by volume,was sucked from a bowsher in front of the machine and injected directly

into the mix from nozzles in the crown of the Wortgen's rotovating drum chamber. All the ingredients were thoroughly mixed to reconstitute and strengthen the old base course.

Following laboratory testing, the strengthened mixture is then compacted, re-profiled and levelled by the grader prior to the Hamm roller compacting the newly strengthen road base to 95% of refusal density. The entire process was repeated to complete the sub-base in-situ repair. The strengthened road base is then sprayed with a sealing emulsion tack coat and covered with grit as a temporary running surface.

"The in-situ recycling has gone very well. Much smoother and faster than I anticipated", said Douglas. "We had scheduled to work to take 8 weeks but the job, including the white lining, took only 6."

■ For more information:
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SUSTAINABILITY & ENVIRONMENT

Britpave Step Barrier® and Sustainable Development

A special Sustainable Construction Working Group headed up by Dr Tony Parry of the University of Nottingham has produced a landmark publication reviewing the sustainability credentials of the Britpave Step Barrier®. The rest of the team comprises Alex Lake – Faber Maunsell, Mike Connell – Civil & Marine Slag, Bryan Magee – Concrete Centre and David Jones of Britpave.

Faced with what could have been a daunting challenge, the Working Group decided to comprehensively review the key sustainability indicators identified by relevant industry organisations, and by the current main client of Britpave Step Barrier®, the Highways Agency. Four main themes emerged. These are:-

- Sustainable Consumption and Construction
- Climate Change and Energy
- Natural Resources and Enhancing the Environment
- Creating Sustainable Communities

The publication is now at an advanced stage and it is expected to be published and launched at Britpave's Annual Conference on 30th September. All members will of course receive a complimentary copy.

It is expected that the format and methodology will be used as a template for further Britpave publications evaluating the sustainable credentials of other products such as concrete roads, concrete airfields including taxiways and apron, concrete slab track systems and soil stabilisation using hydraulic binders.

Britpave Supports Mammals on Roads Survey

people's trust for endangered species

Britpave is pleased to announce that it will be supporting this year's Survey as part of its environmental commitment. We are helping support a special promotional leaflet in two very popular magazines read by people with an interest in wildlife and outdoors. These are BBC Wildlife Magazine and BBC Countryfile Magazine. It is expected that these inserts will encourage more volunteers to come forward and take part in the Survey, and more volunteers means more robust data.

Counting mammal road casualties may seem macabre but the insight that such counts gives us is essential if we want to know how populations are faring regionally and nationally. In this respect *Mammals on Roads*, through the work of the many hundreds of volunteers that have taken part in its first five years, represents a unique and huge achievement.

Wild populations naturally undergo 'blips' from one year to the next, when, because conditions differ slightly, numbers rise or fall. Looking at the longer term picture over numerous years is a better indication of how a population is doing. Nevertheless, in a comparatively short time, the many thousands of records each year in the *Mammals on Roads* survey have sounded an alarm-call for a much loved native mammal.

Counts of hedgehogs along roads in England decreased by 7.5% each year for the first four years of the survey and showed a similar decline in Wales. If the trend continues, it is equivalent to a high Red Alert decline, a term used by conservationists to refer to a loss of half the population in twenty-five years.

■ For more information: www.ptes.org

AIRFIELDS

A Hat Trick for Fitzpatrick!

South Apron Refurbishment - Jersey

The works consist of the phased excavation and reinstatement of the South Apron and the construction of a new Cargo Taxiway link. The components of the complete South Apron Refurbishment Contract are as follows:

- Replacement of approximately half the existing area with all-new Pavement Quality Concrete (PQC) on wet-lean concrete base and crushed concrete sub-base for parking stands and apron taxiway extending eastwards from Taxiway Bravo. Stands to be for ICAO Code C aircraft;
- Total area of pavement is 35,000 m2 made up of 150mm of wet lean and 310mm of PQ concrete. (5250m3 of wet lean and 10850m3 of PQC)
- Approximately 75% of these quantities were laid using Fitzpatrick in house slipform paver.
- The wet lean concrete was produced using recycled aggregates from the existing pavement construction; this involved the crushing of over 10,000 tonnes of concrete to produce sufficient quantities for the wet lean.
- The Contract commenced on 20th August 2007 and will be completed by early June 2008.
- The contract was divided into six phases in order to allow the airport to maintain operations on at least 4 stands on the South apron throughout the works. The South apron was divided into 4 phases and the Cargo taxiway into 2 phases.
- The pavement construction works commenced on 14th September 2007 and will be complete by end of May 2008.
- The actual slipform paving works have taken 61 days to complete (average 200m³ per day).

The contract also included the following associated works.

- Aeronautical Ground Lighting (AGL) including upgrades to existing circuitry and 'mimic' control system display and Sur face Markings to be incorporated on a 'like-for-like' basis with the existing;
- New service road and hardstandings to the front of the Stands including service tug protection to buildings;
- New ductwork and drawpits to facilitate the future installation of Fixed Electrical Ground Power (FEGP) to Stands and
- New Surface Water drainage system to include separate pipework for 'clean' (i.e. Taxiway, where there is low risk of oil spillage) and 'dirty' water (i.e. Stands, where there is a higher risk of spillage). The preceding North Apron Refurbishment Project provided an Oil Interceptor (OI), Aeration Pond and Reed-Beds with sufficient capacity to provide treatment to ensure clean discharge to the water environment from the western 50% of the South Apron. The treatment system is located within the airfield boundary and includes measures to render the surface of the Aeration Pond unattractive to birds. The eastern area of the apron will drain eastwards via the existing outfall pipe network.
- The primary challenge to the Design and Construction processes was safeguarding the operation of Jersey Airport during the works especially in the context of reconstruction of the taxiway link. In order to achieve this, the Airport operator specified a sequence of working and the limited closure of the South Apron Stands.

For more information:
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Dublin Airport Apron Re-Grade

Fitzpatrick Contractors are currently working at Dublin Airport undertaking the re-construction of PQ concrete apron as part of the construction of the proposed T2 (Terminal 2).

The works comprise of the break out of existing PQC & DLC and re – construction of 70,000m2 of new PQ & DL concrete.

The works are to be completed in (3) three phases and the following phase can only commence once the previous phase has been completed due to the requirement of space by DAA (Dublin Airport Authority) for the parking of planes.

The original programme duration is 41wks which is linked to the commencement of the proposed Pier E on the 19th May 08 (by others).

The Works Package:

- Drainage: installation of 7no interceptors and 1900m of pipe runs (between 2.5 & 4.0m deep).
- 13500m of ducting.
- 1070m of Fuel Main and associated fuel hydrants.
- Installation and upgrade of Aeronautical Ground Lighting (AGL).
- Erection of new High Mast Lighting Towers (HML).
- 70000m2 of both PQC & DLC.

The anticipated completion date for the works is Nov 08.

■ For more information:
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RAF Brize Norton Aircraft Servicing Platform

Fitzpatrick have recently commenced an £9.4m project to construct an additional 18 stands for a new 180,000m2 Aircraft Servicing Platform at RAF Brize Norton.

Fitzpatrick have purchased a new state of the art Elba 100 batch plant to batch the 95,000m3 of PQC and Drylean concrete, which will be paved by Fitzpatrick's Gomaco slip form and Vogele pavers.

■ For more information: Joe Quirke,
E: joe.quirke@fitzpatrick.co.uk

AIRFIELDS

The First End-Around is a Success All the Way Around

It is the first of its kind on an American airport. In fact, there is only one other like it in the world on a major airport, and it's in Frankfurt, Germany. It's called an end-around, and work has just been completed on one at Hartsfield-Jackson International Airport in Atlanta, Georgia.

Taxiway Victor (V) is the nation's first Federal Aviation Administration (FAA) approved end-around taxiway. Before Taxiway V opened, the approximately 700 airplanes a day that landed on the airport's northern most runway, Runway 8L/26R, had to wait in line for clearance to taxi across the other active runway, Runway 8R/26L, to get to taxiways Echo (E) and Foxtrot (F) or to the terminal gates.

Now, when the planes land on Runway 8L/26R, they just travel to the end of the runway and turn onto the new 4200 feet (1280 m) long Taxiway V. The taxiway dips 30 feet (9.1 m) below the level of the adjacent runway before emerging at the gate area. The dip in the taxiway allows planes to keep taking off from the runway without any interruptions.

FAA studies have predicted a 30 percent improvement in overall runway efficiency because of the new end-around. Airlines are hoping to save an estimated $26 to $30 million per year, because their airplanes won't be sitting on the runway as long waiting to take off or waiting to taxi. It also means less delays for travellers and a safer travelling experience. Taxiway V eliminates the need for aircraft to cross an active runway.

Archer Western Contractors, based out of Atlanta, won the bid for the end-around at the airport. A tight company imposed deadline of 30 days or less to complete the 50,000 square yards (41,805 m2) of concrete paving was given for the project. The company mobilized their GOMACO paving equipment and went to work on the unique project.

Concrete was supplied by LaFarge, and Archer Western worked closely with them to develop a durable mix that could stand up while being slipformed and meet the project's required flexural strengths. "We had some problems with the initial mix design and some of the super plasticizers and other exotic ingredients in it," Don Cowan, Paving Coordinator for Archer Western, said. "We worked together to simplify the mix, but still meet the project requirements. It had to meet flexural requirements of 650 psi (45 MPa) at 28 days. The final result was a wonderful mix design that stood up well and left a really nice finish."

Security on the airport created some delays in concrete delivery, as the trucks passed through a main check point. To compensate, more end-dump trucks were utilized, averaging 15 to 18 trucks on the project. The trucks carried nine cubic yard (6.9 m3) loads of concrete and dumped into a 9500 placer working in front of the GOMACO GHP-2800 two-track paver.

"For placing concrete on this project, we preferred using a 9500, because we don't have to worry about getting on the reinforcing steel or baskets or anything like that," Cowan said. "It also puts down concrete very fast and effectively. We've had production of 250 cubic yards (191 m3) an hour and that's very good, especially when you're considering traffic, working in a secured area, and other factors that can slow down production."

The end-around taxiway is 130 feet (39.6 m) wide and 4200 feet (1280 m) long. It was slipformed in four paving passes with the GHP-2800 paving 25 feet (7.6 m) wide, 20 inch (508 mm) thick jointed concrete with 26 inch (660 mm) thickened edges on the slab. A Commander III slipformed 15 feet (4.6 m) wide shoulders over continuous steel reinforcing to complete the new taxiway.
"Both of the pavers on the project were very well suited to the kind of work they did," Cowan said. "The GHP-2800 is the right machine to do dual-lane paving and it handled the thick concrete very well. We were working both pavers hard and they produced a beautiful slab."

A T/C-600 texture/cure machine followed behind the pavers applying a burlap drag and light broom finish.

"It was definitely an interesting project for us," Cowan said. "It was challenging in several aspects. We were pouring on a cement-treated base and we had to watch the cure times on that. It was a relatively cut up job and the sequencing of the work and dealing with the variable factors was challenging.
"Overall though, the project and the smoothness we achieved on it has passed everyone's expectations with flying colors. I heard secondhand that the pilots are having to put on their brakes as they go around the end-around taxiway because it's so smooth. The concrete guru, who is also the airport's owner, is extremely pleased with the project. If he's pleased, then we know we did a good job."

It was a successful project for the company all the way around. They beat their company imposed deadline and finished the project in just 24 days. Concrete paving production averaged 1200 to 1500 cubic yards (917 to 1147 m3) per pour.
With work complete on the new taxiway, Archer Western started on another project at the airport. They're currently at work on a 20-phase apron replacement project and are using their brand new two-track GHP-2800 paver.

"The guys are loving our new paver and it's doing a really good job for us," Cowan said. "I'm very pleased with all of our GOMACO equipment and the support they provide is superior. I can call any number of people at GOMACO or their Georgia distributor, Tractor and Equipment Company, and get the answers I need. There has never been an issue that we haven't been able to resolve, and that means a lot to us in the field."

For more information:
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NEW MEMBERS

Elkem Materials

Elkem Materials is a subsidiary of Elkem, and has its headquarters in Kristiansand, Norway, alongside the Elkem Research Laboratories. This is also the site of the oldest Elkem electric arc furnace smelting plant, now over 100 years old. The parent company is one of Norway's leading industrial companies and is among the world's leading suppliers of silicon metal and ferroalloys, having its head office in Oslo. Its main products are ferro-alloys, aluminium and carbon paste, but engineering services and specialised products are also offered. Elkem is now a part of the Orkla Group.

Elkem Materials is the world leader in the marketing of microsilica and its application technology, which has been introduced worldwide over the last three decades.

Elkem Microsilica® is an amorphous silicon dioxide (SiO2) consisting of sub-micron spherical particles. The material is highly reactive in cementitious systems such as concretes, mortars and grouts. The silicon dioxide reacts with calcium hydroxide, released by the cement hydration, to form calcium silicate hydrates. These are much stronger and finer than the cement reaction hydrates and therefore the matrix formed is very dense giving higher strengths and greatly reduced permeability. It can be supplied in both powder and liquid forms.

Elkem Microsilica® is highly suitable for high-performance concrete applications, offering high-strength and excellent durability. In harsh environments - high chlorides, sulphates, caustic materials and other chemicals, as well as physically degrading situations - Elkem Microsilica® concretes are specified for maximum durability and lifetime.

Nearly all of the world's tallest concrete buildings have used microsilica concrete – 311, South Wacker, Chicago; Petronas Towers, Kuala Lumpur; The Emirates Towers, Dubai and The Burj Dubai – due to hit 818m tall. The world's largest bridge projects have also used this quality of concrete – The Storebælt, in Denmark; The Øresund, between Denmark and Sweden; Tsing Ma, Hong Kong. It can be used where an ordinary Portland concrete would suffer rapid deterioration – chemical factories, power plants, desalination units and marine defences.

Elkem Microsilica is also added to shotcrete to improve the fresh and hardened concrete – reducing rebound and dust and improving the strength and impermeability.

In roadways and pavement applications it has been found to be most effective. Higher strength allows redesign options, so that slab depths need not be huge for a given weight of traffic. Increased durability – in particular abrasion resistance – means the pavement will last longer and need fewer repairs. In Life Cycle Cost Analysis Concrete with Elkem Microsilica has been found to be more economical than ordinary concrete – tests on the E18 highway in Norway showed wear depths of only 10% when compared to the best blacktop surface.

Elkem Microsilica is available across the globe, via direct sales or through agents and distributors. Technical assistance can be provided from our dedicated Concrete Technology Unit, again on a global basis.

The company is closely linked to academia, both in the UK and further a field. It plays a major role within the ACI (American Concrete Institute) and associated organisations around the Globe. Hence the background as to our joining Britpave. Elkem ASA believes the use of Microsilica® has a long way to go in terms of usage and market development: as environmental issues, product life costing and sustainability become more prevalent in the market.

The need for higher performing concrete in all structures and elements means Elkem Microsilica® is considered for a wide variety of markets and applications. The company is structured to assist with product and market testing and assessment in order to assure customers and clients of its value.

Elkem Microsilica Concrete in a deck overlay:

Placing a bridge deck overlay in Beverley, Ohio. Mix is design to resist chloride penetration in addition to high abrasion resistance.

Curing starts immediately and proceeds for up to 7 days depending on the environment.

Elkem Microsilica in the full bridge:

This project is using triple blend – opc/pfa/sf – concrete to ensure maximum durability in the marine environment, as well as the physical strength for the slender design.

An artist's impression of the elegant Bandra – Worli Sealink main bridge.

Parking structures:

In the USA 25% of construction costs are often allocated to repairs of such units. The use of microsilica concrete gives significant reductions in maintenance. This is the Spruce Tree Parking Garage in St. Paul, USA.

During the winter season cars with steel-studded tyres have a severe wearing effect on asphalt pavement. Resurfacing is needed every year in heavy traffic areas. It was decided to use high strength microsilica concrete on sections of these roads for long term trials.

The basic mix design was 390 kg/m3 cement, 5% microsilica (by weight of cement) and a water/binder ratio of 0.36-0.38. The characteristic 28 days cube strength was 85-90 MPa. This pavement has shown abrasion effects at only 10% of the normal blacktop surface – hence resurfacing of this road will be in ten years not one.

■ For more information:
John Finch, E: john.finch@elkem.no

E6 and 18 Highways, Norway.

NORDER
Structural and Civil Engineering Consultants

Norder Design Associates Ltd was founded in 1975 to provide a totally integrated, practical and professional service in all aspects of structural and civil engineering. Our success is based around our high calibre expertise enabling our clients to benefit from innovation, rapid response, value engineering and attention to detail.

Norder has a detailed understanding of a broad range of markets and to be able to add true value to our customers we are committed to remain at the forefront of engineering technology.

Adrian Erwee, who has been an active participant in Britpave for more than 5 years and specifically in the Barrier and Special Applications task groups, recently joined Norder as a Company Director with a view to expanding Norder's involvement in the in situ concrete paving market. It is intended that our involvement in Britpave will lead to further opportunities in developing engineering technology.

As a company we will be involved in the Barrier and Special Applications task groups where we hope to contribute significantly to the development of uses for in situ concrete in slip-formed processes. In time we will participate, as appropriate, in other aspects of Britpave's interests so as to contribute to and gain in the growth of knowledge.

- For more information:
  Adrian Erwee, T: 01773 824414, E: adrianerwee@norder.co.uk

New Market for Cement!!!

A 25kg sack of cement was dropped on a house by air force planes using powdered cement to dry out clouds and prevent rain on a public holiday in Moscow. A spokesman explained the sack has failed to pulverise in the air.

From the London Paper – 18/06/08

Concrete Cutters

Europe's first Tyrolit PC-150

Concrete Cutter (Sarum) Ltd has taken delivery of a new Tyrolit UK PC-150 machine. At a cost of £250,000 the purchase represents the largest investment in diamond cutting plant by any UK company and it is the only machine of its type in Europe.

Purpose-built for two uses, the PC-150 can carry out airfield anti-skid grooving and concrete profiling/bump cutting equally efficiently. Head width is 1000mm, speed of cut is 1m2 every 2.5 seconds with complete slurry pick-up leaving new grooves spotless. Large areas of concrete hard standings or roads can be bump cut using the rear depth guide wheels and movable front traction wheel to smooth off uneven areas in 1m wide passes.

Concrete Cutters Ltd operations manager, Iain Campbell, visited Brigham Airport in Utah, USA to see the PC-150 in operation. He said: "We already have 10 months of work lined-up in the UK for the PC-150 and are successfully marketing the machine with airport authorities and specialist airfield contracts throughout Europe. The machine is very impressive and is capable of full recycling of cutting slurry which means a reduced environmental impact".

Dublin Airport Runway

The contract for the anti-slip grooving works on the 10-28 runway at Dublin Airport has been awarded to Concrete Cutters Ltd. The works involves a limestone concrete runway that requires 135,000m2 of 6mm x 6mm x 38mm centres of transverse grooving at a nightshift rate of 3,000m2 per shift. Contracted to the Dublin Airport Authority framework for C&M Construction, these works are part of the 2 billion euro expansion programme.

Specialist diamond cutting blades are being manufactured and supplied by Tyrolit UK which will provide two blade changes.Concrete Cutters Ltd believe this and the use of their PC-150 machine offers the significant cost time savings for the contract.

Qatar Airport

Concrete Cutters Ltd are undertaking a major project at the New Doha International Airport (NDIA). The project involves installing 12,546 ADB, ERNI 12" and 3845 ADB 8" seating rings for main contractor Sinohoydro Gamuda WCT JV. The Qatar government management contractor is Overseas Bechtel Incorporated. The project is regarded as probably the largest ingle project of it kind ever awarded. AN onsite retipping facility will be used to quickly and economically re-tip used core barrels. UK-based Crewcut Diamonds Products have won the contract to supply the diamond consumables.

The Doha airport expansion includes two 4.5km runways, four parallel taxiways and a terminal with satellites and stands capable of 60 million passengers a year. Concrete Cutters Ltd are delighted to have won this contract and see it as the stepping stone to further contracts in the region. Iain Campbell, Concrete Cutters Ltd operations manager said: "We won this project on our innovative approach to safety, environment, technical knowledge, proven track record and our guarantee to install all seating rings to 100% MALMS standard first time. Airfield construction is huge in the region and we intend to expand our operations in the area. Indeed, we are in discussions with some key clients about a full time presence in the region".

- For more information: www.concut.co.uk

BRITPAVE SEMINAR 2008

The Stratford-upon-Avon Line-Up

Golf day – Mon 29 Sept

Ingon Manor is set in 171 glorious acres of the Welcombe Hills. The 18 hole par 72 championship golf course has been designed to test all standards of Golfer, with a variety of signature water holes. Particular care has been taken to maintain the natural beauty of the Welcombe Hills. The planting of more than 50,000 trees and the use of lakes have helped to create areas that are ecologically friendly.

Dinner – Mon 29 Sept

The Britpave Dinner is a first class networking event which offers members real opportunities for networking and is an ideal occasion at which to entertain clients and customers. This year's after-dinner speaker is Eddie Large one half of the legendary comedy duo 'Little & Large'. Their show was a top-billing television show of the 1980's. Over the years, Eddie has developed as a first class after dinner speaker and is very much in demand.

Display Area / Exhibition – Mon 29 Sept

There are a limited number of display areas available which will be of interest to all those companies wishing to promote themselves to Britpave members and others in the concrete paving industry attending this important event. Display areas are 3m x 2m and are available to Britpave members at £470 incl. VAT and to non-members at £822.50 incl. VAT. Call 01276 33160 for more details.

Seminar – Tues 30 Sept

This is the yearly opportunity to get up-to-date with the latest in roads, airfields, barriers, slabtrack, soil stabilisation and the work being undertaken by Britpave's Task Groups.

Stratford Upon Avon 2008

Seminar Programme

09.00	**REGISTRATION & COFFEE**	
09.30	Welcome & opening remarks by Britpave Chairman	David York, Aggregate Industries UK
	Looking for a Socially, Environmentally & Economically Responsible Pavement? It's Concrete.	Tim Smith - Cement & Concrete Association Canada
	The Work of PACTS and the Challenges beyond 2010	Rob Giffford - Parliamentary Advisory Council for Transport Safety
	Questions	
11.00	**COFFEE BREAK & EXHIBITION**	
11.30	Britpave & Ireland	Paul Daniel - SIAC
	Performance and Durability of stabilised soils and hydraulically bound mixtures – Current research	Paul Edwards - Scott Wilson
	Sustainable Construction Strategy for the UK Concrete industry	Angus Hunter - Optimat
	Questions	
13.00	**LUNCH & EXHIBITION**	
14.00	Concrete Step Barrier Update	James Charlesworth & Team - Extrudakerb
	Who's afraid of Bus Rapid Transport?	Bob Tebb - First Bus
	Sustainable Construction & Britpave	Alex Lake - Faber Maunsell, Tony Parry - University of Nottingham
	Questions	
15.40	**CLOSE**	

Accommodation

Situated on the River Avon and set in beautiful landscaped gardens, the 4 star Holiday Inn Stratford-upon-Avon is the perfect location for discovering the delights of Shakespeare's birthplace, while other local attractions and historical sites are within walking distance.

The hotel is within easy reach of Junction 15 off the M40 and 20 miles from Birmingham Airport and the NEC and only a short drive from the amazing Warwick Castle.

All 259 refurbished bedrooms have air-conditioning, wireless internet access and tea and coffee making facilities.

Renowned as an excellent meeting and conference venue and an impressively modernised Ballroom and adjoining exhibition areas Holiday Inn can host events for up to 550 delegates.

The leisure club is available for all guests to use with a wide range of first class facilities including a fully equipped gymnasium, indoor heated swimming pool, sauna and whirlpool.

Booking Form

To make a booking please complete sections 1–4 in accordance with Britpave Terms and Conditions. Payment must be received 14 days prior to event to guarantee your attendance. All prices include VAT.

Britpave Member Options:

1:	Dinner	£95.00
2:	Seminar	£240.00
3:	Dinner & Seminar	£335.00
4:	Dinner & Golf	£140.00
5:	Dinner, Seminar & Golf	£380.00

Non members Options:

6:	Dinner	£125.00
7:	Seminar	£270.00
8:	Dinner & Seminar	£395.00
9:	Dinner & Golf	£170.00
10:	Dinner, Seminar & Golf	£440.00

Student Options:

11: Seminar £117.50

This special rate applies to students who attend the Seminar only.

Please note that Golf only is not an option.

Dinner includes drinks reception, a four-course meal, coffee, half a bottle of wine per person.

Seminar includes coffee, lunch and delegate pack.

Please state clearly the name, surname and company for each delegate as these details will be required for badges.

Please send this form to

Britpave, Riverside House,
4 Meadows Business Park,
Station Approach
Blackwater, Camberley,
Surrey GU17 9AB

Tel: 01276 33160
Fax: 01276 33170

Section 1 – Delegate Details

Name: ....
Company: ....
Option No: ....
Cost: £ ....
Dietary Requirements: Vegetarian/Vegan/Other
Britpave Member: YES/NO
Golf Handicap ....

Name: ....
Company: ....
Option No: ....
Cost: £ ....
Dietary Requirements: Vegetarian/Vegan/Other
Britpave Member: YES/NO
Golf Handicap ....

Name: ....
Company: ....
Option No: ....
Cost: £ ....
Dietary Requirements: Vegetarian/Vegan/Other
Britpave Member: YES/NO
Golf Handicap ....

Name: ....
Company: ....
Option No: ....
Cost: £ ....
Dietary Requirements: Vegetarian/Vegan/Other
Britpave Member: YES/NO
Golf Handicap ....

Section 2 – Company Details

Surname: ....
First Name: ....
Company/Organisation: ....

Section 3 – Payment Options

Cheque Payment

I enclose a cheque for .... made payable to Britpave

BACS Payment

I will pay by BACS £: ....
Britpave Bank: Natwest, 63 High Street, Burnham, Slough, SL1 7JU
Sort Code: 60-04-53, Account No: 47154357
All BACS payments require a purchase order number ....

Paypal

Please visit **www.concretebarrier.org.uk**

Section 4 – Confirmation of Order

Signed: .... Date: ....

Late bookings 14 days prior to event or payments to be made by BACS will require a purchase order number this is in accordance with Britpave Terms and Conditions

Address: ....
Postcode: ....
Telephone: ....
Fax: ....
Email: ....

NEW FROM BRITPAVE

Barrier Cost Comparison – Stages 1 - 3

This 3 part cost study covers all aspects of the cost profile of Britpave Step Barrier®. The scope and purpose of each report is progressively more comprehensive, so Stage 1 is a basic cost study whilst Stage 3 goes into considerable detail and covers a wide range of factors. Available individually or as a set of 3.

Ref. BP37, 38 & 39. Price £10 each or £25 for set of 3. Free to Britpave Members.

Don't forget about me…

Slab Track – Life cycle energy study of railway track beds

With increased debate over Britain's need for a modern, high-speed rail network, it is worth re-visiting this landmark publication which compares the life-cycle of ballasted track with concrete slab tracksystems. This publication was prepared in conjunction with The University of Nottingham Transportation Engineering Centre.

Ref. BP33. Price £10. Free to Britpave Members.

Marketing & Technical Committee Chairmen

Jo Field

Jo Field is currently National Marketing Manager for Lafarge Readymix Ltd. Jo has held various management positions with Lafarge in the Uk over the last 20 years. He brings with him a wealth of knowledge of concrete and it's commercial applications which we hope will assist in the development of Britpave and it's product range.

Adrian Erwee

Adrian Erwee is a Director at Norder Associates. Adrian has been involved with Britpave since 2001 and a member of the Specialist Applications Task Group since 2002. In 2007 he was appointed Chairman of this group and is looking forward to further contributing to the technical knowledge, and the way in which this is presented to Britpave members.

THE LAST WORD…

Road Expo Scotland

The Royal Highland Centre, Edinburgh 5 – 6 November 2008

Road Expo Scotland is Supported by

Road Expo is the only event of its kind in Scotland where delegates have the opportunity to network with hundreds of roads, transport and traffic management professionals, see the latest products and services, including large plant equipment, and attend topical and informative seminars, all under one roof.

Jim Barton from Transport Scotland said about the conference last year "Transport Scotland and SCOTS were delighted to be involved in devising the seminar programme for this event. We are sure that the large number of attendees could not fail to be impressed with the quality of the speakers and improvements to the venue."

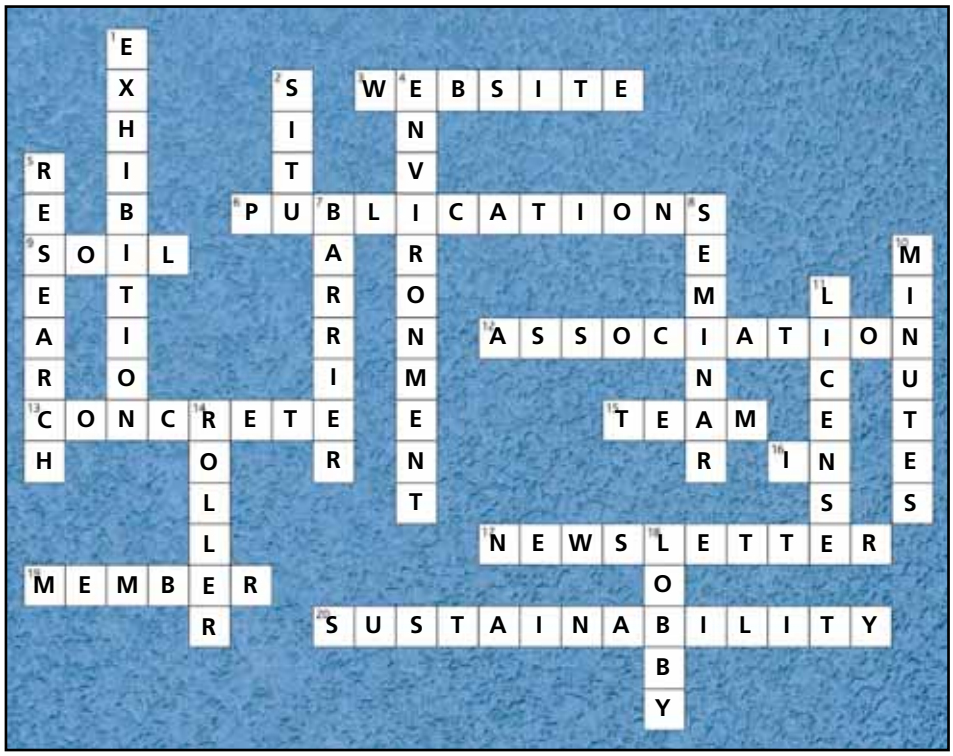
Britpave will be exhibiting and holding a seminar at this event

■ For more information: www.road-expo.com

Where in the World? Issue 16 was…

The Dead Sea, Jordan

The Britpave Crossword Answers from Issue 16…



ACROSS

3 Caught by an arachnid here (7)
6 Non-private activities one must see (12)
9 A turn silo for the ground (4)
12 A group of people joined by a common interest (11)
13 The unanimous vote was confirmed by this evidence (8)
15 Any mate will do for my club (4)
16 & 2 down. Not out (2,4)
17 An output of communicating current affairs (10)
19 An arm and a leg? (6)
20 A mix of this will suit insatiably for the long term (14)

DOWN

1 It was Great in the 1800's (10)
2 & 16 across. Interchangeable suit (4,2)
4 External conditions with which an organism interacts (11)
5 Development doesn't happen without some of this (8)
7 Mac 2 without sound (7)
8 Meeting remains to be sorted (7)
10 There are 1440 today. And tomorrow. And the next day… (7)
11 The scheme is popular with 17 year olds (7)
14 Not steam driven for decorating (6)
18 A thick stew made in North Staffordshire, not unlike Lancashire Hotpot (5)

THE LAST WORD . . .

The Britpave® Team – a note from David Jones

I am often asked who the Britpave Team is, so I thought I would address the issue. There are just 3 team members based in the Camberley Head Office. So let me introduce the team:- from left to right. We have Leanne Cobb Marketing Co-ordinator. Leanne has only been with Britpave for a few months but is already heavily involved in the Marketing Activity, including organising the Technical Conference you saw on page 3. In the middle is myself, David Jones, who has been with Britpave 8 years and seen it develop into the respected organisation it now is. On the right we have Sheridan Cremer-Evans, who is the Britpave Administrator and who has been with us for 4 years. Sheridan co-ordinates all the Task Group and other meetings within Britpave and ensures the smooth running of the Association.

Welcome to *new*members

Britpave is pleased to welcome the following new members and looks forward to their participation in the Association's activities.

Concrete Cutters
Tel: 01753 680043
www.concut.co.uk
Principal contact: Iain Campbell

Norder Design Associates
Tel: 01773 824414
www.norder.co.uk
Principal Contact: Adrian Erwee

Where in the World?

There are two entries this month. Please send your 2 answers to the Britpave Office. One person randomly selected from entries received by 31st August will receive advertising at the Britpave seminar in September to a value of £150 and a bottle of bubbly presented at the seminar.

Britpave
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Tel: **+44 (0)1276 33160** E-mail: **info@britpave.org.uk** Web: **www.britpave.org.uk**

br tpave
The British In-situ Concrete Paving Association

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