BRITPAVE® NEWS

britpave
The British In-situ Concrete Paving Association

WELCOME

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Britpave and the Recession

Dear Member,

I am delighted to report that Britpave membership has held up well this year. Losses in membership have been compensated for by new members joining the Association. Please watch out for changes reported in this Newsletter and on the website.

Some sectors are benefiting from 'fiscal stimulus' monies, whilst others are suffering from the decline in business that is affecting many areas of the construction industry. The networking and marketing opportunities provided by Britpave are essential to all in these challenging times and I am pleased that the vast majority of members have continued to support the activity of the Association. Special thanks are due to all of you who participated in Council, Committees and Task Group activities and this commitment will see Britpave well positioned for moving forward once the upturn comes, as it surely will. Our low overhead costs and careful control of a reduced budget mean even without any outside 'project funding' the Association is able to give its markets professional service and both technical and market leadership.

Make sure you get involved in as many areas as you see fit – the old adage of 'the more you put in, the more you get out', still holds good! We look forward with confidence to 2010 having successfully dealt with the traumas of 2009.

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.

Trade Marks Registered

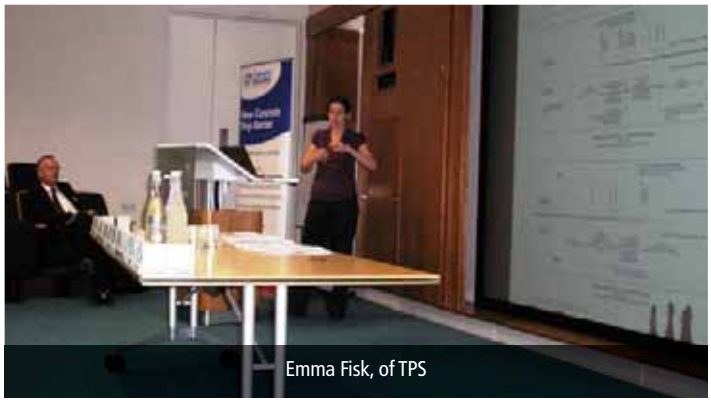
The trade marks Britpave ® and Britpave Step Barrier ® have been registered with the Trade Marks Registry. This protects the use of these words and makes it easier to defend what has become an important brand. People cannot use our trademarks without our express permission. If someone deliberately uses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

New Drawings Launch 30th June 2009

The launch of the Third Edition of the Barrier Drawings was intended to illustrate the changes and improvements and to give different views on the usefulness of these Drawings from the perspective of both installer and designer. The event was chaired by David Jones, Director of Britpave, who gave a short introduction which explained the role of Britpave as the promoter of this concrete barrier system.



Emma Fisk, of TPS

He was followed by:

John Salter of Arup. Britpave commissions Arup for most of its technical work and advice and they have produced all the Drawings and Data Sheets related to concrete step barrier. John's talk covered a number of improvements made in the latest set and in particular he emphasised how the embedded version of the barrier will now be rarely used except for over bridges. He said that the whole principal behind the revisions was to make the drawings simpler and easier to use. John also reported to delegates on how the technical query system is working. The levels of queries have been high in recent months reflecting a dramatic increase in barrier construction to come. This technical query service is currently provided free of charge by Britpave for industry. It is expected that the new Third Edition of the Drawings which are much clearer than the previous set will see a reduction in the number of queries being processed.

James Charlesworth of Extrudakerb, one of Britpave's Licensed Installers, gave an insight into how the new Drawings were easier to use from a contractors point of view. His presentation made full use of photographs taken on recent contracts which illustrated some of the finer points of barrier construction. He emphasised that all the licensed installers had given their input to this Third Edition.

Emma Fisk of TPS (part of the Carillion Group of Companies) gave a presentation based on the perspective of a designer working within a MAC team. Emma used video footage of a contract on M1 junction 32 – 33 to show how various features along this route had been accommodated by careful design using the new Drawings and she said she had found the process surprisingly simple.

Colin Abbott of Fixing Centre, updated the meeting on progress to accommodate both permanent and temporary signs on the barrier. Work in this area continues and in due course the Data Sheet will be issued giving details of approved fixing systems.

After the presentations there was lively question session which lasted 45 minutes followed by further discussions over lunch in the exhibition area.

A full set of Data Sheets, expanding on detailed items in the Drawings, has now been issued.

Exhibition

Exhibition

Speakers, left to right: Colin Abbott, Emma Fisk, John Salter, David Jones and James Charlesworth

EUPAVE EUROPEAN CONCRETE PAVING ASSOCIATION

TECHNICAL SEMINAR

Concrete Safety Barriers in the spotlights – A Eupave Technical Seminar

On 9th June Eupave organised a technical seminar on concrete barriers. Nearly 60 participants from 11 countries joined Eupave in Brussels' for this technical seminar which focused on "New insights and developments on safety and environment".

David Jones, Director of Britpave and Vice-President of Eupave, welcomed all attendees and introduced Mr. Yves Decoene, Secretary-General of Road Federation Belgium. Mr Decoene highlighted the need for safe road infrastructure in order to decrease the number of accidents or minimise the impact on the drivers and passengers. He stated that thanks to research and development a wide variety of materials and equipment is available on the market, yet many places remain unprotected and unsafe. Finally, he told from his personal experience that a concrete barrier, built in 1977, is still in excellent condition today.

The second speaker, Eupave's recently nominated Managing Director, Luc Rens, gave a history of the standardisation within CEN/TC226/WG1 of road restraint systems. After a brief review of the existing standards, he summarised the main technical changes in the future revised versions of EN1317-1 and 2. Amongst the new parts in development, EN1317-8 dealing with the protection of motorcyclist got the most attention. The final conclusions were that standards constitute an important tool for road safety management; that the main decisions are still to be made by the road authorities and that besides the compliance with EN1317 decision criteria are the need of maintenance; the initial and/or life-cycle cost and environmental performances.

Dr. Bryan Magee from The Concrete Centre (UK) continued with a presentation on sustainability issues. He gave an overview of Concrete Step Barrier's positive sustainability credentials by assessing its impact against established indicators identified by both industry and key construction clients.

The key construction-related indicators identified by Government and industry were grouped by four themes:

1. Sustainable production and consumption
2. Climate change and energy
3. Natural sources and enhancing the environment
4. Creating sustainable communities

The main benefits offered by Concrete Safety Barriers were:

- Material usage and waste sensitive
- Less embodied CO_2 than competing systems
- Non-polluting in service
- Fully recyclable
- Maintenance free over 50 year design life
- Low traffic congestion and associated emissions
- Delivers road user and worker safety
- Contributes to more reliable journeys

The low embodied CO_2 assessed over a maintenance-free design life of 50 years appeared to be a significant benefit.

The final presentation was given by Mr. Richard Sturt from Ove Arup & Partners Ltd on the new revelations concerning the relationship between Acceleration Severity Index (ASI) and injury of vehicle occupants. The study he presented consisted of three physical crash tests and 50 computer simulations. Injuries were measured and compared to limits from volunteer and cadaver tests and plotted against ASI and THIV (Theoretical Head Impact Velocity), being the two

Richard Sturt, James Charlesworth, Joe Quirke


Christophe Nicodème, Emilio Oviedo, Luc Rens

significant quantities for impact severity assessment in EN1317. Results showed that, although ASI did show a correlation with injury risk, the level chosen for the boundary between class B and C barriers in EN1317 does not provide significant discrimination between higher and lower risk of injury.

The acceptable level for Head Injury Criterion is set at 325 which is half of the allowed value for head protection in the EuroNCAP (European New Car Assessment Programme) side-impact protocol. This very conservative approach corresponds to a risk of less than 10% of a moderate injury. From the results we see that for a ASI up to 1,6 the injuries are very low. Even with the precautious level of acceptable injury, ASI values up to 1,8 fall within the safe zone.

Similar conclusions were drawn from testing on neck injuries: for crashes with ASI up to 1,7 injuries are unlikely. While boundaries between ASI classes seem to be arbitrarily chosen, the existing requirement in EN1317 for THIV to be below 33 km/hr represents a reasonable threshold below which significant injury is unlikely to take place.

As a conclusion, overall safety including containment level, impact severity and need for maintenance should be considered when selecting a type of barrier for a given situation.

The findings of this Britpave study, conducted by Ove Arup & Partners, has been published in the International Journal of Crash-worthiness. A copy can be requested via email (**info@Eupave.eu**).

David Jones, Luc Rens, Bryan Magee, Richard Sturt


David Jones

International Symposium on Concrete Roads

EUPAVE is the official organizer of the 11th International Symposium on Concrete Roads, to be held in Seville from 13 till 15 October 2010.

The 11th edition of this Symposium is a co-organization of EUPAVE, the Spanish Cement Association Oficemen, IECA (Spanish Institute for Cement and its Applications) and PIARC (World Road Association).

- For more information please vist: **www.2010concreteroads.org.**

CONCRETE STEP BARRIER®

SIAC Construction

SIAC Construction Ltd has been the leading installer of slipform barrier throughout Ireland for many years now. We have been involved in many contracts involving barrier works over the past few years and most of these works have been carried out on the major routes linking Dublin with the rest of the country.

The construction of these routes has been part of an infrastructural scheme known as Transport 21, which was announced by the Irish Government in November 2005, which sets out a comprehensive development programme for the network of national roads over a period from 2006 to 2015. The funding available to the Authority over the 10 years is in the order of €16.5 billion.

This National Road Development strategy includes the completion of the development of the five major interurban motorways, linking Dublin with Belfast, Cork, Galway, Limerick and Waterford by the end of 2010.

It is on these routes that most of SIAC's Slipform works have been carried out.

Some of these contracts include the M50 Upgrade which saw the 10 km section from the N7 to the N4 go from 4 to 6 lanes with new free-flowing interchanges at the Red Cow, Liffey Valley and Ballymount roundabouts. These slipform works were quite difficult at times with restricted working space being a big problem due to the adjacent live traffic conditions. This issue was overcome in many instances by SIAC's ability to allocate some of the smaller plant in their fleet to these tight working areas.

On the M8, the main Cork to Dublin route, SIAC Slipform installed the entire concrete median barrier required on 3 consecutive contracts between Cullahill and Fermoy.

This barrier was laid to both NRA and Britpave specifications. Just under 100 kilometres of barrier was slipformed on this route, utilising approximately 34,000m^3 of concrete. The most recent of these contracts, the Fermoy to Mitchelstown section, was officially opened to traffic on 25th May, 2009.

Interestingly, within these 3 adjacent contracts, 3 different approaches were used to run the median barrier around the central piers at the structures.

The Cullahill to Cashel contract resolved the problem by the use of bifurcations on the approach to the piers which were installed by SIAC with the use of purposely made steel shutters.

The next section, Cashel to Mitchelstown, saw the barrier simply overlap with it running either side of the piers with the use of terminations.

Lastly, Mitchelstown to Fermoy chose the option of running the barrier straight through the central piers by means of a 1:20 taper to increase its width which was then followed by a transition section. This sees the barrier profile become vertical before joining up to a collar that is poured around anti-collision central piers. Again, all of the taper and transition works were carried out by SIAC with specially fabricated shutters.

After carrying out all of the barrier works on these contracts it was required that we also installed moveable steel step barrier sections at emergency crossover points. These were installed as per Britpave specifications and allow the authorities to implement a traffic contra flow system in the event of an accident. These were usually installed in areas where the nearest slip road was at least 5 kilometres away.

Currently, SIAC Slipform are operating on 2 major contracts on the main Dublin to Waterford route, the M9/M10, by installing all median barrier works with the use of 3 full crews. These contracts will see over 20,000m^3 of concrete being slipformed over the course of the next few months.

The concrete mix design we use for the barrier on all our contracts includes a percentage of GGBS and this is for a number of reasons. Not only does it provide a more uniform and lighter colour but it also improves the quality and durability of the barrier. But perhaps most importantly, it's also eco friendly. In the last 2 years by using GGBS in our barrier mix, our CO_2 emissions have reduced by 5000 tonnes. That's equivalent to taking 1,200 cars off the road for an entire year.

We are also at present operating on the N6 Galway to Ballinasloe project which is our biggest contract to date. The route is over 55 kilometres long and we are responsible for slipforming all of the barrier, surface water channel and slot drain on the contract. We are also slipforming all kerbing works on both the mainline and associated sideroads which has a quantity of well in excess of 80 kilometers.

On this project, there are sections of barrier being poured on top of a concrete base as per the Britpave minimum foundation requirement detail. This particular detail is becoming more popular with our clients as it allows them to save on the cost of the bituminous material that would otherwise be placed under the barrier. It also means that, because we are not pouring directly onto blacktop, it takes the operation off the critical path which is good news for both the main contractor and SIAC Slipform alike.

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These works commenced in mid January and are due to be completed in late October '09. To ensure that we achieve our deadline, SIAC Slipform has dedicated 5 full crews to carry out these works. With these resources in place we are currently laying over 350m^3 of concrete per day on this contract alone. Because we are pouring such large quantities of concrete and because of the sheer size of the contract, we are utilising 3 separate concrete suppliers to accommodate the works. Over the 9 month duration of the contract we will have slipformed more than a staggering 30,000m^3 of concrete.

But of course not all of SIAC Slipforms activity revolves around motorway construction and a huge amount of work has been carried out in the last few years in different areas such as railway, car parks, drainage improvement schemes, road widening projects, etc…

It is because of this versatility and desire to explore new aspects of these works that SIAC still remain the leading force in slipforming and will continue to do so well into the future.

Bifurcation detail at structure, Cashel

Removable Steel Step Barrier on the M8

Barrier on concrete base foundation on the N6

Aerial view of concrete barrier on the N4

Transition detail at structure, Fermoy

BRITPAVE STEP BARRIER®

Extrudakerb install Britpave Step Barrier® on the M4 in Wales

In line with TD19/06 the M4 motorway near Newport has seen the first of a number of barrier replacement works.

The life expired steel barrier along the central reserve of the M4 motorway was removed and replaced with Britpave Step Barrier ® during two schemes the first from the western portal of the Brynglas tunnels at junction 26 along the Malpas viaduct and beyond for around 1km and the second continuing the replacement for around a further 2km up to junction 27.

The works were undertaken for Welsh Assembly Government through SWTRA, the South Wales Trunk Road Agency with Designers Capita Symonds and principle contractor Alun Griffiths Contractors Limited.

Britpave Licensed Installer Extrudakerb was the appointed Britpave barrier installation contractor and provided input at all levels culminating in the construction of the barrier and associated elements. Concrete was supplied by Lafarge subsidiary Minimix Limited.

The location of the schemes provided the team with major traffic management issues: the section represented one of the busiest stretches of road in Wales and the works had to be completed with minimum disruption to the road user, other programmed works and local public events dictated that the works must be completed within the weeks running up to Christmas with all traffic management removed for the holiday period. For part of the works the motorway featured only 2 lanes and hard shoulder. The transition to the tunnel portals was unique, the viaduct featured expansion joints at 40m intervals, there was an existing steel sign gantry base that fell within the proposed line of the barrier, street lighting was located along the median, the central reserve featured existing drainage systems that if possible should be retained and there was an existing SoloGuard maintenance crossing point that had been quite recently installed and so need to be incorporated within the new concrete barrier.

The solutions arrived at were many and varied. Works had to be undertaken at night within limited periods when reduced traffic flow allowed, as a result all paving equipment had to be removed from site at the end of each shift; a bespoke transition detail had to be designed and constructed providing transition from the CSB to the tunnel portal, careful alignment of the barrier allowed existing drainage to be retained, the Britpave Troughed Wide CSB was utilised with 12m high columns affixed to the top using an anchorage system provided by Fixing Centre Limited, the existing steel sign gantry was encased within a shuttered length of the barrier and the Britpave Steel Barrier system was used to provide continuity of barrier across the expansion joints.

The first scheme featured a visit to site at night by representatives of Welsh Assembly government who were impressed by the scale of the resources mobilised each night. This visit is testament to the importance of the installation of the new high performance safety restraint system.

The second scheme introduced Wide Variable Concrete Step barrier to the Welsh motorway network, in it's standard width it has already been successfully used on the A55 in North Wales again constructed by the Alun Griffiths & Extrudakerb teams.

All slipform works and the majority of the fixed form elements within the first scheme were completed ahead of the Christmas shutdown and the traffic management was removed as planned.

The second scheme was completed in September 2009.

Further schemes are planned for 2010 as Wales sees existing low performance life expired steel barriers replaced with the new high performance maintenance free Britpave Step Barrier ®.

M61 gets new concrete step barrier upgrade

BARRIER UPGRADES - M61 Junction 3 - 4 North West England

Roocroft Fencing's role as the safety fencing specialist on the M61 Junctions 3-4 scheme involved them installing non deformable steel barrier systems in the verges and slipforming both the drainage channel and the concrete step barrier in the central reserve. By being able to install both concrete and steel systems, this ensures transitions were installed easily and to the correct specification.

The scheme involved the replacement of 3600 metres of steel barrier in the verges and upgrading the central reservation with 1200 metres of in-situ drainage channel and 1800 metres of Britpave step barrier.

The Slipforming was carried out using Roocroft fencing's own Powercurber 5700-C which ensured an above average daily output despite the poor weather, the compact size of the machine enabled the works to be carried out during the day behind temporary steel barrier whilst three lanes of traffic was maintained in both directions minimising any disruption to the travelling public.

Roocroft fencing worked closely with their concrete supplier Hansons and undertook advanced trials to ensure that a mix that met the specification and produced the best performance & finish was designed. The batching plant procured aggregates specifically for Roocroft Fencing for use on this contract.

The excellent profile and finish of the Britpave step barrier was testament to the professionalism of both Roocroft fencing & Hansons.

This job is the first of many Roocroft fencing have secured this year and currently have over 14000 metres of Britpave Step Barrier ® already secured in their orderbook for 2009, this reflects the level of service and expertise provided for all barrier systems.

■ For further information please contact: David Roocroft
E: david@roocroftfencing.co.uk

Slipforming Britpave Step Barrier

New Britpave Step Barrier & Drainage Channel

Floating off gang to ensure a smooth finish

BRITPAVE STEP BARRIER®

Frequently Asked Barrier Questions

Britpave offers an on-line technical query system. Here are just a few of the commonly asked questions.

The responses below cover typical cases and therefore may not always be entirely applicable for particular design situations.

QUESTION	ANSWER
Query not relevant to CSB or SSB	Britpave can only provide advice and guidance on queries relating to the Concrete Step Barrier (CSB) and Steel Step Barrier (SSB) for use as a vehicle restraint system. General design queries that are un-related to the barrier fall outside the scope of the design service provided.
BS EN 1317 compliance criteria	Since CSB is a performance tested product any deviation from Britpave drawings and specification, would affect its compliance with BS EN 1317-2 and therefore would require approval from the Overseeing Authority.
What containment class does CSB provide?	The CSB products illustrated on the Britpave drawings and described in the data sheets conform to BS EN 1317-2 providing a containment class of H2. Embedded CSB was tested in 1995 at LIER in France and was subjected to both a car and bus collision. Surface-Mounted CSB, in both the standard and variable profile, was successfully crash tested at MIRA in April 2006.
What is the minimum length of CSB that can be installed?	The minimum length of CSB that can be installed is 60m based on the performance test carried out to BS EN 1317-2 (refer to drawing CSB/002 Clause 3.2). Analysis has shown that embedded CSB with a slip membrane on bridges is likely to be able to withstand H2 impact with shorter lengths of barrier - refer to BP/35. A length less than 60m would require a departure from standard, which would require appropriate design and approval by the Overseeing Authority.
What HA-approved drainage systems are available for CSB?	Approved drainage systems are outlined in Clause 3.11 of specification drawing CSB/002 and on datasheet DS/CBS/517. Detailed drainage design is to be undertaken by the designer in accordance with HA guidance. Other compatible options can possibly be developed by the Designer but would require Britpave review and approval of the Overseeing Authority.
How quickly will the barrier reach its designated design strength?	Barrier performance compliance to BS EN 1317-2 is likely to be achieved at strengths less than the characteristic concrete strength specified. Analysis indicates that the barrier will function adequately as a safety barrier when the concrete has achieved approximately 40% of its design strength (see datasheet DS/CSB/514). It should be noted that based on the performance test carried out to BS EN 1317-2 certified compliance can only occur once the barrier has achieved its specified characteristic concrete strength (see specification drawing CSB/002). If the barrier is required to be operational at an earlier age than the standard 28 days, a testing and compliance strategy needs to be in place and agreed between the relevant parties to ensure acceptable conditions have been achieved at the time the barrier is brought into use. Any curing agent used must not require any intervention following its initial application that extends the period for early use.
What are the minimum foundation requirements for CSB?	For surface-mounted CSB the minimum foundation requirements are given in drawing CSB/1001 and datasheet DS/CSB/522. For embedded CSB on bridges the minimum foundation requirements are given in drawing CSB/2000 and datasheet DS/CSB/504. the specified foundation requirements are the minimum necessary to support the barrier. Foundation design is critical to barrier stability.
What is the minimum working width of CSB?	The working width class depends of the level of containment required. CSB provides H2 W2 and N2 W1. For H2 W2, this results in a minimum clearance of approximately 258mm between the back edge of the CSB and any structure behind it. Please contact our licensed Britpave installers (refer to Britpave website) for plant clearance requirements.
What are the minimum restraints for plant access?	Contact our licensed Britpave contractors (refer to Britpave website) for plant clearance requirements. Also, refer to minimum working width.
Is a temporary difference in road surface level at CSB acceptable during construction?	Yes, a maximum 100mm temporary difference in surface level is allowed. See drawing CSB/1002 for details.
What are the minimum foundation requirements for CSB at bridges?	Embedded CSB is required on bridges. Surface mounted CSB is not permitted on bridges since a slip membrane is required along the full length of the bridge. The slip membrane is required to break the bond of contact adhesion between the barrier and the deck to avoid interaction between CSB and the bridge during thermal movements. As the restraint provided by contact adhesion is broken, the embedment of the base and the minimum foundation requirements specified for embedded barriers are required to ensure the stability of CSB under impact.
Can surface-mounted CSB be used at bridges?	The minimum foundation requirements for CSB at bridges are given in drawing CSB/2000, datasheet DS/CSB/504 and BP/35.

BRITPAVE STEP BARRIER®

Installation of extruded central reservation – M4 junction 31-30, South Wales

Hanson UK supplied concrete to contractor PJ Davidson Ltd for the construction of a new Britpave Step Barrier® in the central reservation on the M4 between Cardiff and Newport. The project is part of the Welsh Assembly Government's scheme to widen the M4 between junctions 29 and 32 (Castleton and Coryton), which is due for completion by the end of the year.

Hanson UK supplied 913m³ of C23/35 air entrained concrete for the slipform from its Cardiff plant during a 53-hour continuous pour, which started on a Friday morning and continued at a rate of approximately 18m³ per hour until completion late on Sunday afternoon. Two lanes of the motorway remained open while the work was carried out, minimising disruption to traffic.

Hanson technical services manager Chris Coton said: "Building materials are a key resource for building a sustainable society but, as an industry, we have a responsibility to protect the climate and secure resources for the future. We take these environmental responsibilities very seriously and consider them in the design of the concrete we supply.

"The use of cement additions such as ground granulated blastfurnace slag (GGBS), a cement replacement product that can reduce the greenhouse gas emissions associated with the manufacture of concrete by up to 50 per cent, offer considerable environmental benefits.

"The design of the C28/35 air entrained concrete for this contract was based on a cement type using a proportion of GGBS (CIIB-S). The height and thickness of the wall enabled us to use 28mm limestone aggregate, which is a larger size than is usually stocked at most ready-mix plants.

Hanson area operations manager Karl Jones added: "Due to the large cross-section of this barrier, a slipform concrete using a larger aggregate was specifically developed by Hanson UK, which resulted in a product that precisely suited the needs of the project.

"Good communication and planning with PJ Davidson – along with the logistics involved in organising the cement and aggregate deliveries – was fundamental to the successful completion of the pour."

The standard of the finished product – in terms of profile, line and level – exceeds the specification and provides a good advertisement for the concrete extrusion process.

Alan Tuck, project manager for PJ Davidson, said: "This is only one example of the technical support Hanson has provided us over several years. It is the reason that Hanson is our strategic partner – especially for our most demanding schemes.

"The continuous delivery over a weekend of such a large volume of concrete meant that our client, Carillion, was very satisfied that this operation did not disrupt other works.

"The relationship that we have developed with Hanson has resulted in repeat business over many years and we look forward to continuing this in the future."

The keys to successful and accurate slipform:

- Careful control of the laying speed of the machine
- Consistent rate of supply of ready-mixed concrete
- Consistent source of materials
- Control of specific consistence of the ready-mixed concrete
- Skilled machine operator and paving team
- Good communication between site and ready-mixed concrete supplier.

■ For further information please contact:
Madeleine Hardman or Samantha Stagg, James Reed PR Ltd.
Tel: 0117 929 0405; email: Madeleine@jamesreedpr.co.uk

SPECIALIST APPLICATIONS

Roocroft's Power Curber avoids M6 traffic congestion

Power Curber 5700c lays on right hand side

Right: A Power Curber 5700-C set up to pour curb on the right side of the machine. The majority of all slipform pours are on the left side of the machine. The 5700-C is unique in that it pours from either side.

Roocroft Fencing of Leyland in Lancashire installed a replacement gulley on the M6 Motorway at Shap, a busy three-lane motorway in the north of England. Roocroft owns Power Curber equipment and is a sub-contractor of Amey Mouchel, the Highways Agency contractor.

The Roocroft company, Joe, David and Matthew Roocroft, purchased the 5700-C for its compact size, its ability to pour on either the left or right side, and its versatility, such as being able to slipform barriers and sidewalks, as well as curb and gutter, on either side.

The contractor closed only one lane of M6 Motorway to do the work that is photographed, thus reducing traffic congestion and cost. The chute for carrying the mix into the machine swivels, allowing the concrete truck to line up directly in front of the machine. Thus, the 5700-C pours in a single 3m traffic lane, with traffic moving beside it. Larger, competitive slipform machines require closing two lanes of traffic for this type work, according to Power Curbers' dealer in the UK, Bryan Hebble-Thwaite.

■ For further information please contact: Bryan Hebble-Thwaite - info@powerslipformers.com or David Roocroft of Roocroft Fencing - david@roocroftfencing.co.uk

AIRFIELDS

Leading the Way 1.5 million square metres of airfield pavement, an achievement for VolkerFitzpatrick Ltd over 10 years

VolkerFitzpatrick, part of the Dutch-owned VolkerWessels group, recently reached a significant milestone – the awarding of 1.5 million m² of concrete airfield pavement in under a decade. Averaging out at 150,000m² per year, the figure places the company at the top of the airfield paving league.

But this figure shouldn't be a surprise to those in the concrete paving industry. VolkerFitzpatrick have the largest concrete paving fleet in UK and Ireland, and a concreting history that goes back some 60 years to the wartime airfields of East Anglia.

From Kinloss to Jersey and Lakenheath to Dublin, VolkerFitzpatrick has worked as main and sub-contractor on both military and civilian airfields across the whole of the British Isles. When their airfield achievement is added to their impressive CBM and Barrier capabilities', VolkerFitzpatrick are probably the most versatile concrete company in the UK and Ireland.

Talking about the airfield achievement, Joe Quirke, General Manager of VolkerFitzpatrick's Paving Division said "We have achieved this milestone because we have a board that understands and provides the required investment, and because we have very good teams of experienced people who understand concrete - and can move easily through the sectors".

"For example, we currently have teams on site at four airfield projects, two CBM projects and two Barrier and Channel projects. All of the plant is working and some 20 staff, 35 direct operatives and 60 sub-contract operatives are employed on these schemes. We will turnover almost £34M this year that is £4M on CBM/Barrier and £30M on airfields"

VolkerFitzpatrick's board has provided nearly £3M to invest in new plant and equipment over the past two years, and the VolkerFitzpatrick fleet now consists of

- 4No 110m3/hr Batching Plant
- 1No 150m3/hr CBM plant
- 2No 10m wide Slipform Pavers
- 2No 6m wide Slipform pavers
- 3No Leica 3d Systems
- 2No Barrier and Channel pavers
- 3No Tracked CBM pavers
- 1No 2600 placer/spreader
- 6No Maxon Agitors Trucks
- 1No Trimmer

As well as the batching and laying kit, the company's mobile batching plants are certified to produce concrete under the BSi kite mark, and have three fully equipped UKAS concrete testing laboratories which compliment the Kite mark scheme.

"We believe that we are the only main contractor who has this accreditation on the plants and it signifies our determination to provide the highest quality products" said Mr. Quirke.

"Furthermore, we are one of only four Britpave licenced installers in the UK which enables us to construct high quality Concrete Step Barrier on the roads network" he said.

But it is not just in the British Isles which VolkerFitzpatrick is seeking new business. A recent rebranding and a closer working relationship with sister companies in the VolkerWessels group has led to more collaboration between the UK and Europe. "We are now actively looking at some major projects in mainland Europe" said Mr Quirke. Being part of the big group has provided the opportunities to expand not only geographically but also into new sectors such as rail and waste

So, as the company looks ahead to the future, it hopes the next 1.5M m² will only take 5 years to achieve.

Down Under Update from Beca Airports

New A380 Concrete Pavement at Auckland Airport

The commencement of scheduled A380 operations in early February 2009 at Auckland Airport marked an important milestone both for Auckland Airport and for the Beca Airports Team. It was the result of several A380 airfield projects implemented over the past years at Auckland Airport with the most recent being the completion of a new aircraft stand (Stand 19). In order to improve operational flexibility of the stand it has been configured to cater for either one wide bodied A380 aircraft and for two narrow bodied jet aircraft.

The pavement of the new aircraft stand consists of approximately 8,000m^2 of 500mm thick, 6MPa flexural strength concrete on a base layer. The concrete slabs were typically laid on 6m × 6m pattern with keyed longitudinal construction joints being provided. Transverse contraction joints consisted of 600mm long × 40mm diameter dowel bars at 400mm centres. Slabs containing fuel hydrants and other services structures have been partially or wholly reinforced. All concrete joints were sealed.
The concrete works were undertaken by Brian Perry Civil using a Bidwell 5000 concrete paving machine with Kaipara Ltd laying the base and sub base layers. To reduce the environmental impact of the works, recycled crushed concrete from previous projects has been used in the sub course of the new pavement.

Beca Airports are working on a number of airport projects throughout New Zealand, Australia and the Pacific Islands and hopefully will provide updates on our concrete paving projects in future editions.

- For further information please contact: John Marsh (**john.marsh@beca.com**) or John Cairns (**john.cairns@beca.com**) or Paul Houston (**paulh@fcc.co.nz**).

Bidwell 5000 Concrete Paving Machine in operation

Construction works with the new Pier B in the background

AIRFIELDS

Trinidad Airport upgrading

slipformed at short notice by Airside Installations two track SF 3000 Power Paver

Piarco Airport, the international Airport of Trinidad and Tobago was the arrival airport for the 5th Summit of the Americas in April of this year. That meeting involved the heads of government of 34 countries and their delegations. It included the US President Obama, as well as the Secretary General of the UN.

The large number of Aircraft arriving and staying for the Summit Meeting would have caused considerable problems with insufficient apron aircraft stands available to park the aircraft. To solve the problem for such an important meeting, as well as to expand and modernise the airport area, it was necessary for the rapid expansion of the Airport facilities. That involved extending the east and west aprons and laying five new separate aircraft platforms.

The stands had to be capable of taking planes as large as President Obama's Boeing 747, Air Force One, as well as Boeing 757,767,737 and Airbus Industries A310 and A319 Aircraft.

The work had an obvious time constraint to be ready in time for the meeting. The development work was given to Jusamco Pavers Ltd, a member of the Junior Sammy Group of Trinidad, who would lay the asphalt paving, and the concrete production and laying work was given to Airside Installations of Peterhead in Aberdeenshire, Scotland, who had worked with the Jusamco Group on previous airport contracts.

Notice to mobilize was given in the third week in January and by the 2nd of February the entire kit for the operation was on the high seas and heading for Port of Spain, Trinidad. Airside Installations shipped out to Trinidad, at short notice, their two track Power Paver SF 3000 with the capacity to lay slabs up to 9.75 Mtrs and one of their own 120 Cu mtrs per hour concrete batching plants. Wide and 500 mm deep, and one of their own concrete batching plants equipped with a twin shaft 3.5 Cu. Mtr. per batch mixer, as no equipment capable of wet concrete production was available on the Island. Transportation of the mixed concrete to the widely dispersed working areas was carried out using some of Jusamco's fleet of Caterpillar 725 articulated dump trucks, carrying up to nine cubic metres at a time.

Construction is typically American, 300 mm base gravel (sub-base) underneath, with a foundation layer of 200mm of Marshall Asphalt base laid to receive the concrete platforms, to form islands which are then surrounded by Marshall Asphalt up to finished grade. Normal airport civil engineering tolerances applied.

Airside designed the concrete using locally sourced limestone aggregates, quarried in the Trinidad Highlands, and cement manufactured on the island by Trinidad Cement Ltd. Additives and curing compound were sourced from local manufacturer SCL, who produce and distribute in the Caribbean for Fosroc.

The concrete was specified as having a flexural strength of 4.5 Mpa at 28 days, and Airside had on site a beam testing machine to check that this was being achieved. Typically they were getting well above 6 Mpa at 14 days. The concrete was designed as having almost zero slump, but Airside were happy that the Power Paver could cope with it by using up to sixteen vibrators.

Airside had to make special arrangements with Trinidad Cement to bag the OPC in jumbos, and store it for a period so that it would cool, and then re-bulk it for delivery to their batching plant. Typically it is delivered on the island at about 85 degrees centigrade, almost straight from the ball mill, and they needed it to cool to ambient temperature for incorporation in to the PQ.

It was necessary to build underground tank storage at the batching plant for the water, with hatches above ground level to feed in block ice to bring the temperature of the mix down. It required ice at the rate of about five tonnes per day.

The work involved 15,000 Sq. Mtrs. of surface area to be laid over 12 days to meet the very tight deadline, with the Power Paver slipformer being moved between the different apron areas at least every day on a low loader to suit the program on the asphalt. The on board self lift up feature of the Power Paver SF 3000 allowed the low loader to be driven under the machine and move it in a matter of minutes and this was especially useful in this regard, making loading of the complete slipformer with the final finisher attached very quick and easy with no dismantling necessary, saving a great deal of time.

The Power Paver was set up with screed sections to lay in six Mtr. wide strips 480 mm deep. The placing rate was over 100 Cu. Mtr. per hour. The use of the hydraulic final finishing attachment also gave the work a fist class flat finish which required a minimum of handwork again saving a great deal of time.

The longitudinal joints were dowelled with 40mm bar at 480mm centers, and the slab was sawn and then sealed with Dow-Corning fuel proof silicone sealant, by Airside using their own early-entry saws and sealer applicator machine.

As a result of Airside having the correct equipment for the high volume concrete production and slipforming and the close cooperation between the Jusamco Asphalt operation and the concrete work the contract was completed two days ahead of program and handed over to a very happy client, allowing the Airport some welcome extra time to prepare for the summit.

■ For Further information please contact:
Bryan Hebble-Thwaite at bryan@powerslipformers.com

ROADS

Paving A19 in Germany

Contractor Eurovia is working on a 14 km section between Kavelstorf and Rostock-Laage (exit for the local airport) on the German A 19 Autobahn using a Wirtgen slipform paver train SP 1500 L.

The A19 is a 124km long highway which leads through the German federal states of Mecklenburg-Vorpommern and Brandenburg. The highway starts in the northern part of the German city of Rostock and connects the Baltic sea coast with the highway A 24 leading to the German capital of Berlin.

The highway A19 is of importance for the international transit traffic as it provides direct trade access to the international port of Rostock: The port of Rostock offers ferry connections to several Baltic sea states, for example to Gedser in Denmark, Trelleborg in Sweden, Helsinki in Finland, Tallinn in Estonia and Ventspils in Latvia.

The SP 1500 L is a lightweight slipform paving train for paving two-layer concrete slabs. The train comprises two machines that can move independently of one another. This feature ensures quick and easy transport, requiring only little disassembly effort. And this feature is very helpful on this particular section as three bridges can be found along the 14km. The paving process takes place in two working shifts: a day shift from 7 am to 7 pm and a night shift from 7 pm to 7 am. Up to 700 m of concrete pavement can be laid during one shift. Washed concrete with a low noise surface texture is used for the 14 km.

A self-propelled, track-mounted texture curing machine TCM 1600 follows behind the slipform paver train for the perfect finishing touches. The unit is equipped with an automatic spraying and sweeping system.

Wirtgen slipform pavers are extraordinarily efficient when used in motorway construction. Dowel bars and tie bars are inserted into the concrete automatically. The large Wirtgen pavers like the SP 1500, SP 1500 L and SP 1600 are capable of paving concrete slabs across the full carriageway width and in single-layer or dual-layer application.

The SP 1500 L is a complete paving train, making it an ideal candidate for paving motorway carriageways. It comprises two two-tracked machines, and is fully equipped for dual-layer paving of motorway carriageways.

An American View of Concrete Pavement Preservation

Having recently celebrated the 50th anniversary of the interstate highway system, it seems appropriate to honour and reflect upon one of the USA's greatest achievements.

It is noteworthy to mention that many of the original interstate highways that were constructed years ago using Portland cement concrete pavement (PCCP) are still in service today, carrying traffic loads many times in excess of their design projections. In fact, it is difficult to imagine what the condition of the interstate system would be today if constructed from other paving materials.

Since the early days of interstate construction, highway funding has failed to match the overwhelming needs posed by the growth and vitality of the US economy. Highway managers face increasing demands with limited transportation funding. This has led many transportation officials to find new and innovative ways to maintain and preserve their existing pavements.

Highway agencies across the country are departing from old traditional reactive maintenance approaches to new proactive preservation strategies designed to protect their highway infrastructure investment. Preserving the highway network is the most cost-effective and efficient means to assure serviceable roadways in the future.

But perhaps the greatest benefit derived from preservation is improved overall performance, measured by attributes such as ride quality, safety and extended service life.

Concrete Pavement Preservation – A Better Way of Doing Business

Across the USA, awareness is growing among transportation officials that concrete pavement preservation, or CPP, pays significant dividends in managing pavements. In states such as Texas, New York, California, Kansas, Missouri, Georgia and others, highway officials realize that their investments in concrete pavement need to be protected to obtain the maximum life span from these pavements.

Highway owners can no longer afford to address their concrete pavement repair needs with short-term solutions such as bituminous patches and thin asphalt overlays.

CPP is a series of engineered techniques developed over the past 40 years to manage the rate of pavement deterioration in concrete streets, highways and airports. CPP is a non-overlay option used to repair areas of distress in concrete pavement without changing its grade. This rational, preventive procedure restores the pavement to a condition close to or better than original and reduces the need for major and more costly repairs later.

In fact, recent reports from the Transportation Research Board state that for every dollar invested in appropriately timed preventive pavement maintenance, $3 to $4 in future rehabilitation costs are saved.

Diamond Grinding – A Gem of a Solution

One CPP method that is used more and more frequently by highway owners is diamond grinding, a procedure used to restore or improve pavement ride quality and surface texture. Although diamond grinding has been available since its first use in 1956 at Davis-Monthan Air Force Base in Tucson, Ariz., recent developments and increased experience have made diamond grinding and CPP the best, first rehabilitation option for concrete pavements.

Diamond grinding corrects a variety of surface imperfections on concrete pavements and should be used in conjunction with other CPP techniques. Diamond grinding restores rideability by removing surface irregularities caused during construction, slab curling, faulting and construction of other CPP techniques. The immediate effect of diamond grinding is a significant improvement in the smoothness of a pavement.

Another important effect of diamond grinding is the significant increase in surface macrotexture and consequent improvement in skid resistance, noise reduction and safety.

Some of the advantages of diamond grinding include:

Reduced road noise - Diamond grinding retextures worn surfaces with a longitudinal texture and provides a quieter surface. Diamond grinding also removes faults by leveling the pavement surface, thus eliminating the thumping and slapping sound created by faulted joints. Noise-level measurements of diamond-ground surfaces indicate a reduction of up to 10 dbA in pavement noise and a considerable decline in the frequency of noise when compared to transverse tining. In fact, diamond-ground concrete pavements can be quieter than many dense-graded bituminous pavements.

Provides a smooth surface that can reduce dynamic loading and increase pavement longevity. Diamond grinding often results in a pavement that is 70 percent smoother than the pregrinding profile.

Reduces accident rates - There is some evidence that diamond grinding may help reduce accident rates, and it does not affect the life of the pavement

Enhances surface texture and skid resistance.

Does not raise the pavement surface elevation.

Can be applied only where improvement is needed.

California State Department of Transportation (CALTRANS) conducted a study to better quantify the expected longevity of a diamond-ground PCC P and its overall effectiveness under various weather conditions and construction practices.

In fact, diamond grinding was first used on a highway application in California in 1965 on a 19-year-old section of Interstate 10 in Southern California to eliminate excessive faulting. The pavement was ground again in 1984 and again in 1997 and is still amazingly carrying heavy traffic nearly 60 years after it was first constructed.

CALTRANS reports that "is a viable and cost-effective rehabilitation measure when properly applied. Diamond grinding not only extends the service life of a concrete pavement, but it also reduces tire-pavement interface noise and improves texture and skid resistance. Because the pavement is much smoother after grinding, highway user costs are also reduced through improved fuel efficiency and lower vehicle maintenance costs. It has been shown that it is possible in California to diamond grind candidate PCCP up to three times during the life span of the pavement.

■ For further information please contact: John Roberts, International Grooving and Grinding Association. jroberts@pavement.com

ROADS

Need to gradually switchover to Concrete Roads: Sheila Dikshit

India's cities are growing rapidly and consequently road traffic is burgeoning. City roads need to cope with the rapid increase in the density of traffic. The construction of concrete roads has been well recognized in major cities in the world. Considering that conventional road building techniques In India may not suffice to meet this demand, CII jointly with the Department of Industrial Policy and Promotion (DIPP), Govt. of India, organized a Seminar on Concrete Road Projects: Focusing on City Roads & Technology, here today.

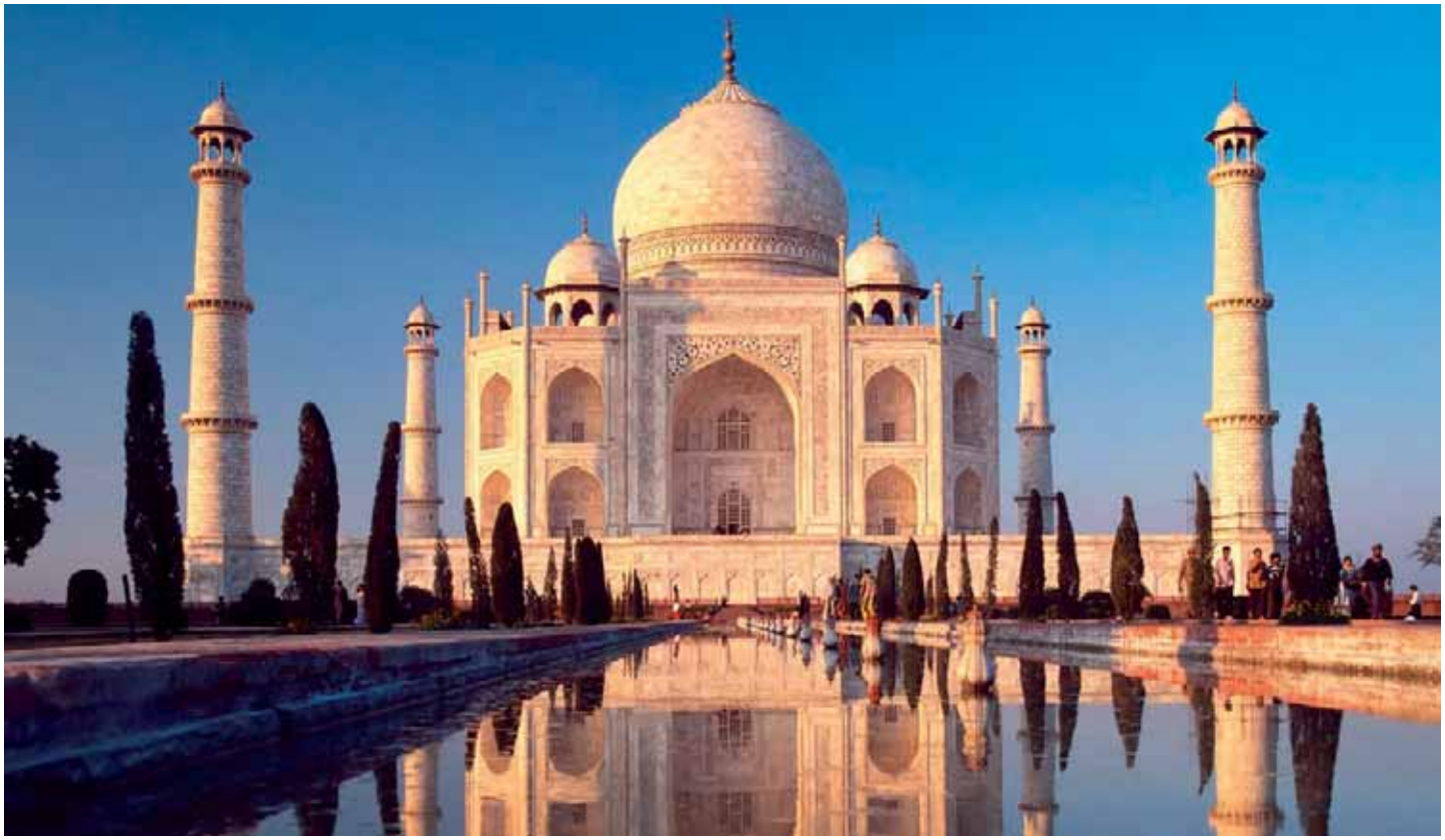
Smt. Sheila Dikshit, Hon'ble Chief Minister of Delhi was the Chief Guest at this event. In her inaugural address, she said "India is beginning to realize the importance of building long-lasting roads. We should begin the process of switching over from bituminous to concrete roads. Even if it takes longer it is worth it." She invited the industry to join hands with CII and offer a workable solution to build concrete roads in the city of Delhi in a manner that involves minimum disturbance to services. She suggested that participants in the seminar examine whether some of the new colonies in the capital region can be considered first. She also expressed the view that rural roads can readily be made with concrete as they do not interfere with civic utilities.

Delivering the keynote address, Mr. Sumit Banerjee, Chairman, Cement Industry Division of CII & Managing Director, ACC Ltd. today said "We believe it is important that the cities of India take a serious look at the new trends and technological advancements of building concrete roads. The Indian cement and construction industry and equipment manufacturers are willing to play a proactive role to collaborate with State Governments for construction of city concrete roads."

Concrete is the preferred choice of material to build roads in most of the developed world. The United States of America is often cited as the benchmark for rigid pavements. Concrete roads in USA make up more than half their roads. Dr Mike Ayers of American Concrete Pavement Association, USA State-of-the-art Technology described design considerations used for building concrete Roads in USA.
The Seminar showcased the road construction successes and experiences of select cities in India including Mumbai, Indore and Surat. Issues relating to the adoption of new concrete road-building technology, the role of equipment manufacturers and Government initiatives on city roads were discussed in detail.

Cement concrete roads built in Mumbai, Indore and Surat have been performing exceptionally well in terms of lower maintenance cost and long lasting life. Mr S V Joshi, Chief Engineer – Roads & Bridges, Mumbai Municipal Corporation described Mumbai as the pioneer in building concrete roads in India. Of the total road length of 1941 km in Mumbai, as much as 467 km (about one fourth) are concrete roads. Compared to this, cement concrete roads have a share of only 2 per cent of the national road network of 3.5 million kilometers.

Other key participants at the seminar comprised senior officials of State Governments, cement and ready mix concrete companies, equipment manufacturers, construction companies, consultants and technical experts.



RAIL

A High-Speed Connection Between France and Spain

It's a project of enormous size and expense, but it will ultimately link two countries via a high-speed rail link. Both tourists and freight will travel at speeds up to 300 km/h (186 mph) as they ride between Perpignan, France, and Barcelona, Spain. The journey used to take almost three hours to complete, but that time will be reduced to only 50 minutes with the new Train à Grande Vitesse (TGV).

"Le Perthus" tunnel is the link between Perpignan in France and Figueras in Spain in the French/Spanish border town of Perthus. Two 8.7 meter (28.5 ft) diameter tunnels, each 8.4 kilometers (5.2 miles) long, is part of the overall link connecting the two countries.

The work on the French side of the railway was completed by the contractor group, EIFFAGE Travaux Publics, France, based out of Lyon, France. Part of their responsibilities included slipforming the concrete base slab on which the railway for the high-speed track would be laid, and the two side platforms.

This would be the first tunnel project for the company. They needed to slipform five different profiles inside the tunnel's limited space. EIFFAGE chose to purchase three GOMACO Commander IIIs with the various mold profiles.

EIFFAGE's first project inside the tunnels was slipforming the base slab, or tunnel floor. The floor had an average thickness of 600 millimeters (23.6 in) and was 5.6 meters (18.4 ft) wide. Cross slope of the floor varied between zero and 7.67 percent. Three different drainage pipes, varying in diameter from 250 to 400 millimeters (9.8 to 15.75 in), were incorporated into the floor during slipforming.

The Commander III four-track had its tracks turned at 35 degree angles to run along the slope of the tunnel walls. The inner leg tubes were turned 45 degrees from their normal position to accommodate the tunnel paving application.

Concrete was supplied by an on-site batch plant on the Spanish side of the tunnel. Ten specially-designed mixer trucks carried six cubic meter (7.8 yd3) loads of concrete to the paving site. Two special crossing platforms were fabricated inside of the tunnel to allow the trucks to pass by each other. A turntable in front of the paver swiveled the trucks 180 degrees so they could dump into the hopper of a custom-built concrete spreading system.

"I think the most difficult aspect wasn't the slipforming, but delivering the concrete with trucks inside the tunnel," Luc Riottot, Perthus Tunnel job-site manager, said. "When we paved the floor, we paved from France towards Spain in both tunnels. The system allowed the trucks to pass each other, turn around, and return back to the concrete batching plant."

The Commander III was equipped with the Leica stringless guidance system and the Minnich Auto Vibe vibrator monitoring system. It also features the latest in GOMACO control systems, the G22, which has easy to understand icons and commands in full text French (or any other language of the contractor's choice). The G22 easily interfaces with both the stringless guidance and vibrator monitoring systems.

EIFFAGE worked continuously, 24 hours a day, seven days a week, slipforming the tunnel floor. In eleven weeks time, they finished the floors in both tunnels, slipforming 48,000 cubic meters (62,781 yd3) of concrete.

The first of the side profiles to be slipformed was a slotted drain with a 250 millimeter (9.8 in) diameter. The profile is designed to drain away any dangerous liquids that could potentially spill from the goods transport trains. The slotted drain was slipformed the length of one tunnel. Then the Commander III would be moved to the adjoining tunnel and slipform the drain back in the opposite direction.

Next to the drain, a rectangular profile was slipformed over a 250 millimeter (9.8 in) diameter drainage pipe and four 160 millimeter (6.3 in) diameter tubes for electrical cables. The profile was 495 millimeters thick (19.5 in) and 1.47 meters (4.8 ft) at its widest point.

With both profiles complete, it was time to begin work on the profiles for the opposite sidewall.

"We used two passes and two molds, because the complete profile was more than one cubic meter (1.3 yd3) of concrete and we thought that was too much to slipform in one pass," Gratessolle said.

"The first layer was a rectangular profile. On top of that, we slipformed a double 'U' channel profile. The channels will hold pressure water pipe for fire protection and a tube inside the concrete will house more electrical cables."

The surface of the profile will also serve as a passenger walkway in case of emergency exits. Trucks carrying concrete for the profiles would enter the tunnels from France, drive up on a ramp so they could get by the paver, unload onto the Commander III's high-volume auger conveyor, and then exit the tunnel towards Spain.

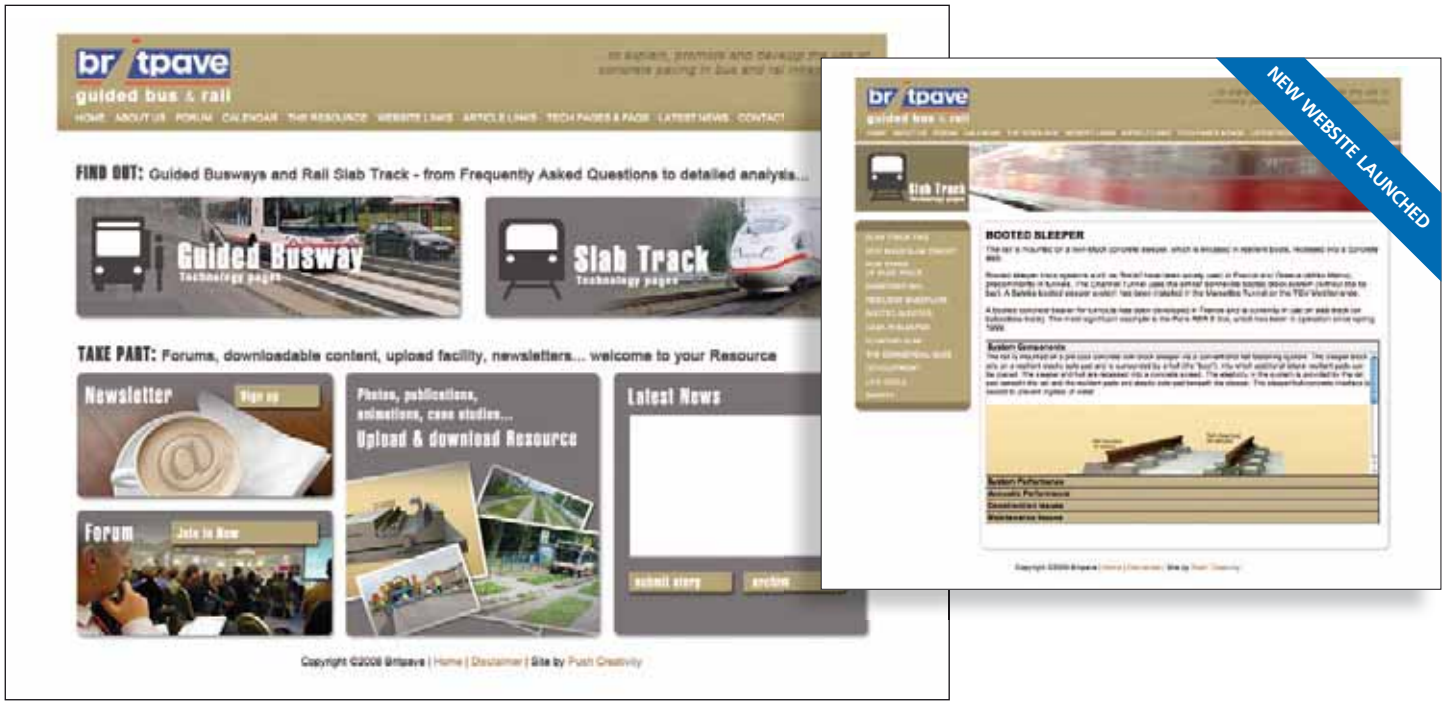
"One of the difficulties of the project was the difference between the theoretical position of the tunnel and its real position," Riottot said. "Sometimes we would have to manage up to 250 millimeter (9.8 in) differences. To resolve the issue, we used telescoping molds."

By the time "Le Perthus" tunnel project was completed, EIFFAGE had slipformed 28,000 cubic meters (36,622 yd3) of concrete and five different profiles, each with a length of 16.8 kilometers (10.4 mi), for a grand total of 84 kilometers (52.2 mi).

"Preparation is the most important thing for this kind of project and to win the challenge, you need partners who will stay with you from beginning to end."

RAIL

New Rail Website Now Launched



SOIL STABILISATION

Metropolitan Police Air Support Unit Lippits Hill

Lippitts Hill is home to the Metropolitan Police Air Support Unit – the 'Sky Cops', as featured on the BBC programme of the same name. The two Eurocopter EC145 choppers patrol the air over London, providing assistance to the ground patrols.

Each time they take off, the helicopter pilot has to perform a number of checks to ensure that the aircraft is fully operational. These checks have to be done whilst hovering above the relatively small take off pad.

Beach was called in to assist with the construction of a brand new 'runway' that the pilots could land safely on in the event of an emergency.

The material on site was silty sandy clay but, whilst it had reasonable strengths, an elevated sulphate spike in one of the trial holes meant the Engineers, Scott Wilson, trialled the material with Quicklime and GGBS (Ground Granulated Blast Furnace Slag). The results proved positive and a mix design of 3% Quicklime and 3% GGBS agreed.

In order for the full depth of the runway to be treated, Beach suggested to the Client that the entire formation be dug and placed in 3 separate treatment areas adjacent to the new runway. This enabled us to increase production outputs as the earthworks plant were able to pick up the treated material and place it in the areas that had been bench cut, without having to avoid stabilisation plant and vice versa! Working for Tom Blackwell Contractors of Essex, Beach successfully carried out the stabilisation of 6,500m^3 of material, exceeding the Clients' expectations. Testing was carried out in accordance with SHW Series 800 Earthworks, Class 9G.

SSTG Meeting - Melton Ross

On the 16th July 2009 the Britpave Soil Stabilisation Task Group (SSTG) met at the offices and works of Singleton Birch Limited at Melton Ross. The meeting itself followed its familiar robust sets of discussions, but importantly it was agreed that Britpave SSTG Contractors should affirm they work to the Britpave SSTG Guidelines for Best Practice and that this will be recognised on the www.soilstabilisation.org.uk website.

It was also noted that there are significant developments concerning standardisation, in particular EN 459 Building Lime is to be revised to specifically include lime for soil stabilisation, and BS 6031 Code of Practice for Earthworks is out for public comment.

After the meeting members of the SSTG were treated to an informative guided tour around the lime works, lead by Singleton Birch's Lime Sales Manager Steve Foster. The tour included everything from the quarry face, the four impressive Maerz kilns themselves and then product despatch either in bulk or bags.

1. Melton Ross Quarry
2. Four Maerz kilns
3. Packed materials awaiting despatch
4. Britpave SSTG Members John Ferguson (Balfour Beatty), Alex Kidd (Highways Agency), Eddie Ronald (CJ Haughey), Al McDermid (Beach Soil Stabilisation and SSTG Chairman) and Steve Foster (Singleton Birch).

John Feguson, Alex Kidd, Eddie Ronald, Al McDermid, Steve Foster

NEW MEMBERS

BAM Contractors

– Delivering Ireland's Infrastructure

BAM Contractors is the largest Contracting Organisations (civil engineering, rail & building contractor) in Ireland and is an operating company of Royal Bam Group of the Netherlands. BAM in Ireland had a turnover of €460m in 2008 and employs over 2000 directly and indirectly. Safety always and delivering quality projects are key drivers for BAM. Innovative solutions, engineering ingenuity, adherence to the highest safety and quality standards and professional construction management are the hallmarks of our contracts.

We have extensive experience in the construction of all types of infrastructural projects and have over the past 20 years developed a very substantial skills base in the areas of work methods, traffic management, and planning and controlling major infrastructural projects. We consider that our permanent skilled workforce is our greatest asset.


South Eastern Motorway

Principle Road Construction Statistics

Quantities	km	Excavation M3	Pavement Tonnes	Concrete M3	Rebar Tonnes	Structures
Overall	226	27 million	4 million	0.5 million	0.1 million	213

Our recent major project experience includes;

- N25 Waterford By-Pass PPP. Client NRA - 23 km of 2x2 lane motorway, 3 million m³ of earthworks, 23 bridges including a 475 meter long Cable Stayed River Bridge (central river span of 225m and single 125m high pylon).
- M7/M8 Portlaoise to Castletown and Portlaoise to Cullahill Motorway PPP Scheme. Client NRA – 40 km of standard motorway, including 4 grade separated junction, a motorway to motorway interchange and 47 principal structures, a toll plaza and a maintenance facility
- N9/N10 Kilcullen to Waterford Scheme Phase: 2 - Waterford to Knocktopher. Client Kilkenny County Council - 23.5 km of high quality dual 2 lane carriageway National Primary Road, 8.6 km of single carriageway, 2.5 million m³ of earthworks 2 no. grade separated junctions and 32 no. structures.
- Carlow Bypass. Client Kildare County Council - 18km Dual Carriageway – forms part of the N9/N10 Dublin to Waterford route - 3 Interchanges and a further 16 Principal Structures
- N6 Athlone – Kilbeggan Dual Carriageway. Client, Westmeath County Council - 30km of 2 lane carriageway national primary road 3 Grade separated junctions and associated slip roads and 18 no. principal structures
- N6 Kinnegad – Kilbeggan Dual Carriageway Client, Westmeath County Council; 29km high grade dual carriageway, 17 structures and 3 major interchanges.
- M50, South Eastern Motorway 60,000 AADT. Client, Dun Laoghaire Rathdown County Council - 10km of new motorway, 4 major interchanges, 12 overbridges, 1 ramp viaduct, 1 river valley bridge, 1LRT underbridge and 2 river bridges.
- Cork Airport, New terminal & Apron Development
- LUAS Rail Depot at Red Cow
- LUAS Extension, Belgard to Citywest utilising Stabilised Foundation Class 3 & track Slab.

Since the company was established in 1959 to construct the Wexford Bridge, BAM has continued to build upon its reputation for innovation. We use a team approach to complicated engineering challenges and innovative construction solutions. Our innovation includes:

- Optimising the vertical and horizontal alignments for cut/fill and import/disposal balances
- Maximising the reuse of suitable materials
- Minimising off-site disposal of materials
- Optimising structures' design

Our Quality Management System is certificated to ISO: 9000, our Environmental Management System is certificated to ISO: 14000 and our Safety Management System is certificated to DNV Level 6We believe that detailed, systematic, and thorough work preparation improves quality, efficiency, and a value added product for our Clients. It is this philosophy that has yielded the successful completion of our many major complex projects.

Rapid International Ltd

Established in 1969, Rapid International Ltd is a focused and dynamic company, concentrating on the manufacture of concrete mixing plants and mixers, exporting to four continents from our 40,000 square feet manufacturing facility on our 10 acres site at Tandragee, Northern Ireland.

Rapid began manufacturing our own range of pan mixers in 1980 and since then have further developed our products to include planetary, twin shaft and continuous mixers.

There are two particular plants of direct interest to Britpave members. The Rapidmix 400C is a continuous mixing plant which is fully mobile and self erecting, complete with its own on-board generator. This machine is ready to mix within 4-6 hours of arriving on site and is capable of producing up to 400 tonnes per hour of concrete, the 600C model produces up to 600 tonnes per hour. The machine is also particularly suitable and efficient when producing cement treated base, soil stabilisation, roller compacted concrete (RCC) and the mixing of soil bentonite.

Through our association with SBM Mineral Processing GmbH of Austria, we also offer a truly mobile 120m3/h ready-mix batching plant with a 3m3 output twin shaft mixer. This plant can be erected and operational in 8 hours and we believe this will be the next generation of site batchers.

In recent years Rapid have successfully exported these machines throughout the USA, Mexico, Australia, Russia and Poland.

Rapid also design and build a family of modular ready-mix concrete plants, each with two loading positions for maximum efficiency. These plants are designed to occupy a small footprint while providing stepped access to all drives and maintenance areas including the tops of the silos. These modular plants can be fitted with 2m3, 3m3 or 4m3 pan mixers providing achievable outputs from 60 – 120 m3/h. Recent contracts include plants for Lafarge and Bardon Concrete.

Due to the international success of our products, our last financial year has been our most profitable and highest turnover to date. In spite of the world economic down turn, we have maintained our staffing levels and have substantially increased our marketing budget. Rapid are in the process of erecting a large wind turbine at our factory to make us a net producer of green energy as well as supplying all our electricity needs.

- For further information please contact: Victor Pickering at
  info@rapidinternational.com
  www.rapidinternational.com

THE LAST WORD…

David York - Getting to Know You

Name:
David York
Location:
Bourne
Occupation/Job Title:
Managing Director
Organisation:
Ballast Phoenix Ltd
Top of your in tray?:
Carbon/energy management
Biggest Work Achievement?:
Getting incinerator bottom ash aggregate (IBAA) accepted in the marketplace
Best Part of your job?:
Facing up to new challenges
Top Business Tip: Always grasp the nettles! Otherwise they just keep growing.
Favourite Holiday Destination:
Just back from trekking in the Himalayas – fantastic, but we have family in Lowestoft and go there every year. An old fashioned seaside holiday which all the family enjoy.

Favourite Food:
I love food – anything other than turnips or Macdonalds! Good Indian food is probably my favourite.
Describe yourself in 3 words:
Dynamic, hardworking, motivational – according to my staff!
Interest/hobby or favourite sport:
Cricket – all forms

New Members

Rapid International Ltd
Mr Victor Pickering (Sales Manager)
Tel: 028 3884 0671
www.rapidinternational.com

BAM Contractors
Mr Dominic Dempsey
Tel: 00353 (045) 886400
www.bamcontractors.ie

Liam Maher Plant Ltd
Mr Liam Maher
Tel: 00353 6262058

C J Haughey Construction Ltd
Mr Eddie Roland
Tel: 024 76445798
www.cjhaughey.com

RJT Excavations
Mr Brian Heron
Tel: 01604 761670
www.wjharte.co.uk

Enterprise Mouchel
Mr Steve Brooks
Tel: 01256 481001
www.enterprisemouchel.com

Introduction to Carol Abbey

My name is Carol Abbey and I am the new Administrator for Britpave.

I have thoroughly enjoyed working with Britpave over the past 3 months. There has been a lot to learn about the concrete industry, in particular the Concrete Step Barrier, but with the help of David and Leanne I have not been left to struggle alone.

Although my experience is not in the Concrete Industry I have worked for a large Land Surveying company in South Africa.

If you have spoken to me I'm sure you will have realised, I am originally from South Africa but have spent the past 7 years in England / Wales with my husband and 2 young boys. With 2 active children we find ourselves spending a lot of time outdoors and enjoy mountain biking and camping (we have had to adjust to the English weather fast).

I hope that I will have the opportunity to meet you in the future.

NOTICE: Bardon Composite Pavements

Sitebatch Technologies, Roller Compacted Concrete Company and Needham and Cullen Road Services have been amalgamated into a newly formed business "Bardon Composite Pavements". They will continue to undertake work involving the mixing and paving of various hydraulically bound materials. Bardon Composite Pavements is a trading name of Aggregate Industries UK Limited.

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