



THE JOURNAL OF THE CONCRETE REPAIR ASSOCIATION

ISSUE NO. 25

Education, Education, Education.

Many of you will remember the phrase 'Education, Education, Education', uttered by Tony Blair at one of the New Labour Party Conferences back in nineteen hundred and frozen-to-death.

Regardless of your politics, it is hard to argue against the philosophy. We all know that the future prosperity of UK PLC depends enormously on the ability of educated individuals to generate wealth, to say nothing of paying off the enormous debt mountain we are currently saddled with. Unless the UK maintains investment in education we will soon find ourselves in a sorry state and as a result, probably closer to being downgraded to a B credit rating on the international stage.

The truth is that the UK is renowned for teaching excellence. We have some of the best educational establishments in the world. This is a fact confirmed by the sheer number of foreign students that flock to our shores every year to attend our places of learning; and in many instances paying good money to do so.

In a small way, bearing in mind the huge sums spent at national level, the CRA is also towing the 'philosophical line'

In addition to publishing various Advice Notes on concrete repair and allied disciplines, the Association has just introduced a new DVD which, in addition to the Advice Notes, includes three individual audio-visual programmes. These self-running image and voice-

In a small way, the CRA is also towing the 'philosophical line'



over commentaries lucidly explain and illustrate the essential approach needed for important, yet quite different remedies for ailing concrete.

The educational DVD represents the Association's contribution toward increasing the UK's knowledge and understanding of concrete restoration and rehabilitation or, to put it another

way, its contribution toward sustainability. And, putting their money where their mouth is, copies of the DVD are free-of-charge.

The programmes are specifically designed to give an insight into concrete repair procedures and allied refurbishment techniques. They have

Continued on page 2

BS EN 1504 – AN UPDATE

By: Charles Ellins & Ian Wilson of CRA member – BASF

With more than 50% of Europe's construction budget currently being spent on the repair and refurbishment of existing structures, buildings and facilities every year, the repair of deteriorating reinforced concrete structures forms a vital part of the wider picture.

Before BS EN 1504 was introduced at the beginning of 2008, there had been no common European Standard in this field. Often simple 'patch and paint' strategies were used as short term cosmetic repairs, but they failed to address the root cause of the problem.

This had the propensity to, and indeed did, lead to dissatisfaction with many building owners. In fact a study published in 2005, under the auspices of the Concrete Repair Network, (<http://projects.bre.co.uk/conrepnet>) showed that the level of dissatisfaction with the European concrete repair industry was as high as 75% after ten years in service.

This figure, derived from an albeit anonymous survey of over 210 completed projects, highlighted problems in diagnosis of the original problem, subsequent product choice and specification, as well as poor application procedures.

Small wonder, therefore, that prior to the implementation of BS EN 1504, the hope was that the new Standard would provide much needed guidance to specifiers, contractors and material manufacturers and put greater emphasis on whole-life costing over a commodity approach.

As a full European Standard, adherence to BS EN 1504 is mandatory for all publicly funded projects, providing standardised guidance on how to select repair products based upon the repair application required.

Continued on page 2



INSIDE

CRA advice note update

A dose of reality needed

Raising the 'standards' bar

Industry Developments

Industry Grapevine

www.cra.org.uk

Education, Education, Education.

Continued from page 1

been produced for the benefit of specifiers, contractors and owners of structures/buildings containing concrete components who need a brief explanation of the methods and just as importantly, the critical matters to be taken into account when looking at specific projects.

The first programme, an entirely new presentation entitled 'Electrochemical rehabilitation of steel reinforced concrete structures', explains the primary causes of steel reinforcement corrosion in concrete and the various remedial options that are available. It covers design considerations and outlines possible electrochemical remedial solutions, such as realkalisation, chloride extraction, cathodic protection/prevention, sacrificial systems and describes new developments.

The second, entitled 'Structural strengthening with fibre reinforced polymers' provides an overview of structural strengthening using fibre reinforced polymers (FRP) composite materials. This programme outlines the different types of FRP available (such as flat layers containing unidirectional fibres or woven fibre fabrics embedded within a thin layer of light polymer matrix material) and the types of structure they can be used to strengthen. The information delivered will enable the reader to avoid basic errors when employing, specifying and/or applying such composites.

The third programme, entitled 'The route to a successful concrete repair', which has been in place for a number of years now, has recently been updated in line with BS EN 1504. The Standard - 'Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity' is the framework around which clients and their consultants, or designers, can build a specification. It deals with the essential steps that need to be followed or considered, before, during and after, carrying out concrete repair. The programme does not attempt to delve into the intricacies of specification, or site works. Rather, by following the steps outlined and by reference to the more detailed publications/advisors highlighted, the reader should avoid many of the pitfalls endemic in concrete repair projects of all sizes.

Copies of the new CRA educational DVD, which also contains copies of all the current CRA Advice Notes, are available free-of-charge by calling: 01420 471615, or by e-mailing: publications@cra.org.uk

Alternatively, the CRA is able to present one, or a combination of the three programmes as personal CPD presentations, in your office, at mutually convenient times and dates. All three, approved by the Construction CPD Certification Service, are presented free-of-charge to professional groups. For further details of this facility e-mail: initialcontacts@btinternet.com

Thus, the CRA is playing its part in the education process, in line with its stated aims and objectives. Do you want to participate?



Electrochemical



Strengthening



Concrete Repair

A DOST NEEDED

Allen's observations

I have just returned from an interview we've all been there!

The interview (meeting) was the final stage of what is called 'the procurement process', which must cost a chunk of the public sector services budget.

Now, I should like to make perfectly clear that I am going back to the days of my youth, when contracts were filled rooms, at the back of licensed premises, by voice main chance. But surely, somewhere along the line, check on how the public sector decides where to spend money.

30 years ago it was pretty straightforward. You tender, price won it. Then we began talking about quality, an approach that would deliver 'best value'. Then came

BS EN 1504 - AN UPDATE

Continued from page 1

In terms of the products used in concrete repair, BS EN 1504 specifies minimum performance levels so that products can be CE marked for approval for sale across Europe. This opens up the choice of products available to specifiers and provides reference to identification tests, allowing products to be sampled, checked and confirmed in accordance with the manufacturer's specification. It also refers to relevant standard performance tests so that, for the first time, engineers and owners can compare 'apples with apples' when looking at products from different manufacturers.

Manufacturers' initial response to the Standard, however, has varied, with some choosing a slow start to meeting its requirements. The argument that the CE mark would not be essential for products either manufactured, or supplied in the UK, does not hold water. Not only (as one major contractor commented recently) does it make specifiers vulnerable, any contractor not using compliant concrete repair products would be failing in his duty of care. This being the case, it's time for manufacturers to stop dragging their feet and take a consistent approach to ensure that both contractors and specifiers are not left exposed through non-compliance.

Whilst there has been a period of grace regarding the enforcement of BS EN 1504, it is worth noting that on one recent project, where non-compliant products were specified, the involvement of the Trading Standards Department meant that the specification for the contract had to be re-issued to include fully compliant products.

BS EN 1504 is a huge step in the right direction in the field of concrete repair. Its arrival, however, was met with a wide-spread reluctance to plan for its impact and poor understanding across the board. The commitment of manufacturers as well as contractors and the education of specifiers are essential to not only meet but, as importantly, to gain real long-term cost benefits for concrete repair from the Standard.

As the required specification procedures become more familiar within the construction industry, the interpretation of the Standard will become clearer. In the meantime, it's up to manufacturers to support specifiers and contractors by supplying compliant products and generic specifications with clear method statements, which can be adapted to meet local conditions.

CRA UPDATES CONCRETE REPAIR ADVICE NOTE

The CRA has recently published the second (updated) edition of its Advice Note No. 1, entitled 'The route to a successful concrete repair'.

The document has been designed for the benefit of specifiers, contractors and owners of structures and/or buildings containing concrete components. It contains the basic information needed to establish a route to achieving a good level of concrete repair.

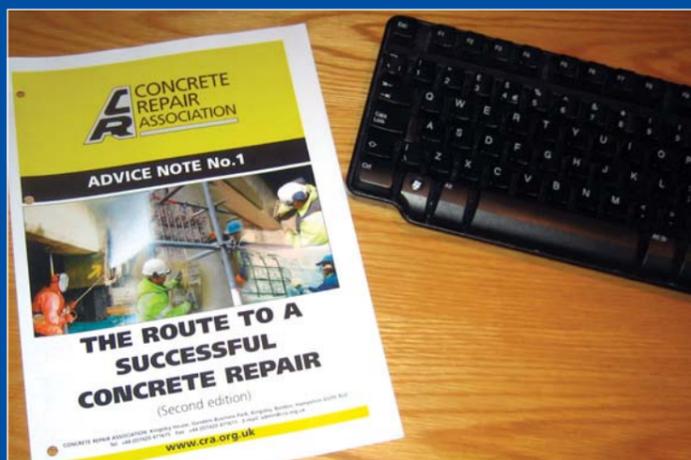
The document has been updated in the light of the recently introduced Standard for concrete repair - BS EN 1504 'Products and systems for the protection and repair of concrete structures', the standard framework around which clients and their consultants, or designers, can build a specification.

It deals with the essential steps that need to be followed or considered, before, during and after, carrying out concrete repair, in line with the new BS EN 1504 Standard. They are Health, Safety & Environment, Definition of the client's objectives, Assessment of damage or deterioration and diagnosis of its cause, Specification of the repair work, Preparation of contract documents including a full specification and bill of quantities, Contractor selection and evaluation, Supervision of the work and Post-repair management of the structure.

BS EN 1504 covers all the above mentioned steps and should be followed closely, says the Advice Note. The Standard is in ten parts and although principally product related, it addresses all stages of the repair process from becoming aware of an existing problem, through properly designed and executed repairs, to the handover of a structure to the client.

CRA Advice Note No.1, in conjunction with BS EN 1504, provides a framework for designing, specifying and applying the chosen repair principle or principles and if followed, should provide a successful concrete repair. However, there are many variables such as the right material may not have been chosen in the first instance, or the material, or procedure, may not have been applied properly.

Similarly, the Standard does not offer guidance or restrictions on the techniques and methods covered by the principles, particularly as applied on site, nor on the site



quality control of the processes. It is best to seek advice and guidance on how to carry out the works on site from a specialist contractor or material manufacturer, such as a member of the CRA.

Copies of CRA Advice Note No.1 can be downloaded at: www.cra.org.uk Alternatively, a hard copy can be requested. Tel: 01420 471615 or e-mail: publications@cra.org.uk

Copies of the CRA 2010 Members Directory are available free of charge. Tel: 01420 471615 or e-mail: publications@cra.org.uk

E OF REALITY

ions ...

and to coin a phrase,

it is somewhat laughably
as taxpayers a sizeable

not saying that we should
ere handed out in smoke
enal officials with an eye to the
e, we need to have a reality
end what is, after all, our

dered for a job and the lowest
and price, as a balanced
ne 'continuous improvement',

'full local employment'
and an end to 'global
warming'. Surprisingly,
even in a 70/30 quality/price evaluation, the lowest bottom line still wins the day. But to
get our bottoms evaluated, if you follow my drift, people like me have to spend weeks
writing reams of verbiage.

Quite honestly, most (not all) of this is nonsense. I mean, when you win a job lasting six
weeks, there is a limit to how much impact you can have on local employment and the
plight of assorted minority groups. But you still have to make a statement about it and
suddenly you find yourself transported into a realm of fantasy.

I recall being marked down by one Consultant for failing to address the effect my
company's work would have on endangered species in the area. To the best of my
knowledge, Shoreditch is deficient in Okapis and Lesser Spotted Fritillaries; its fauna
being almost totally given over to rats, pigeons, feral cats and urban foxes.

Then you get all the 'yes /no' boxes. Do you comply with the law on race/gender/ safety
and so on, until you begin to wonder what would happen if you just ticked 'no' for the hell
of it. It's rather like those questions on the American Visa form where they ask if you are
visiting the USA to overthrow the Government. It makes you wonder if there are special
cells in Guantanamo Bay full of sobering Brits who, fuelled by duty free, wrote 'yes' just
for a laugh.

Procurement in the public sector has now become a giant self-perpetuating industry, full of
experts who cost a lot and add very little that can be discerned by the naked eye.

Which brings me back to today's interview. To get there, my company had completed a
Pre Qualification Questionnaire (PQQ), which included gems such as 'What will your
company do to improve the environmental impact of your operations' and the instruction
'Please provide ten bound copies of this submission. The PQQ also requested copies of
three years accounts, copies of every certificate going and copies of the company's health
and safety policy (not on CD-ROM, hard copies please). I reckon that we must have
deforested an area the size of Hampshire to generate all the paper required.

Then we progressed to the tender. Here we had to provide all of the accounts, certificates
and policies again, plus the pricing document, as well as answer further question, most of

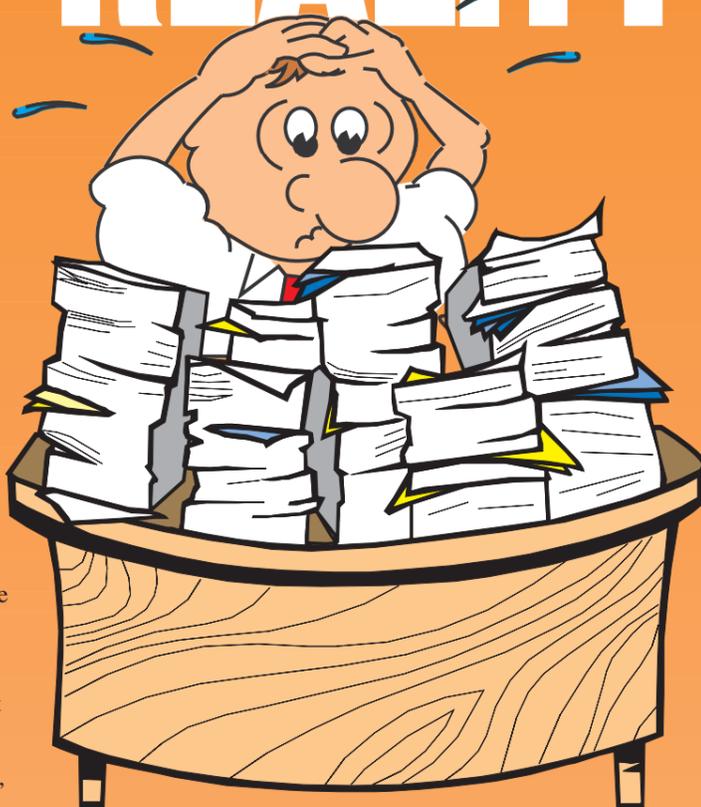
which were re-hashed versions of the ones already
requested. Another county became treeless!

Moving on, we attended a site visit at which we
were asked a number of penetrating questions
which, let's be honest, had a familiar ring to them.
Finally, the interview reached the dreaded phase –
'We have a range of set questions for you'.
OK folks take it from the top if you would.
Perhaps, as at Prime Minister's Questions, we
should have referred them to the answers we had
given previously (and twice before that).

On the way out, the presiding Consultant
whispered to me, "It looks hopeful – you were
quite competitive in your pricing!" No comment!

So dear Prime Minister, if you want to save money,
how about resurrecting former ideas of re-
introducing prison ships and purchasing everything
on a price basis. We could then transport all the
procurement industry experts out to these vessels,
send them off into the sunset and can get back to
giving decent jobs to the public at a fair price!

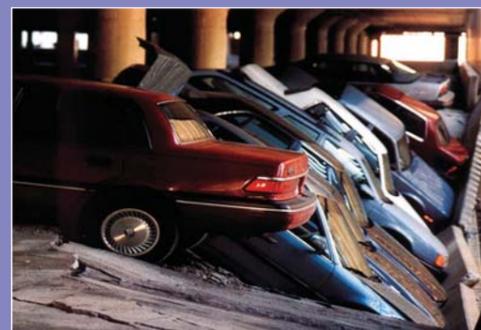
Readers' comments are welcome.
E-mail them to: admin@cra.org.uk



Raising the 'standards' bar

As the CRA has articulated previously, almost without fail recessions generate imposters. And, although an economic downturn of the kind we are currently suffering hasn't occurred for a few years, the 'rule' shows little sign of changing.

The concrete repair sector is not immune to the predicament, nor to the adverse impact that such imposters are having on its members business, but the CRA refuses to lie on its laurels. Even in the current difficult trading conditions, the Association continues to seek ways of raising the 'standards bar' in this specialist discipline.



As a result, the Association (originally established in 1988) has decided that all full members must comply with BS EN 14001 (Environmental Standard) by the end of 2010 and BS OHSAS 18001 (Occupational Health & Safety Assessment Series) by the end of 2011.

From these dates, compliance to 14001 and 18001 will become a fundamental requirement for membership, which is another reason why clients and engineers should specify a CRA member for such specialist construction work.

BS EN ISO 14001 specifies the requirements for an environmental management system (EMS). It provides a framework around which an organisation can control the environmental impacts of its activities, products and services and to continually improve its environmental performance. Thus, it applies to those environmental aspects that the organisation can control and over which it can be expected to have an influence.

BS EN ISO 14001 is applicable to any organisation that wishes to (1) Implement, maintain and improve an environmental management system, (2) Assure itself of its conformance with its stated environmental policy, (3) Demonstrate such conformance to others, (4) Seek certification/registration of its environmental management system by an external organisation and (5) Make a self-determination and self-declaration of conformance with this international standard.

ISO (OHSAS) 18001 is the internationally recognised assessment specification for occupational health and safety management systems. It was developed by a group of leading trade bodies, together with ISO, to address the lack of a viable third-party certifiable international standard and is designed to work alongside ISO 9001 (Quality) and ISO 14001 (Environmental). ISO (OHSAS) 18001 allows a business to constantly identify and manage its health & safety risks, reducing the potential for accidents and to aid compliance with legislation, thus improving overall performance and promoting a safe and healthy working environment.

In today's uncertain and highly competitive marketplace every company needs to demonstrate that it is managed efficiently and responsibly and that it is able to provide a dependable service without unnecessary downtime caused by work-related ill-health, injury and incidents; hence the emergence of BS EN 14001 and now, BS (OHSAS) 18001.

Demonstration of a proven track record and overall proven ability in the specialist concrete repair sector, together with compliance to ISO 9001, the CRA codes of practice and its training initiatives, are already essential requirement for CRA membership.

In addition, the vast majority of CRA contractor members are ConstructionLine, CHAS and Exor accredited, whilst all manufacturer members products are BBA approved.

"As with a number of specialist activities in the construction industry, concrete repair work demands specialist know-how and technical capability" commented Dave Burgess, CRA Chairman, "Beware the imposters and eliminate future problems. Specify a CRA member"

INDUSTRY Developments

CONCRETE REPAIRS RECOGNISED FOR SAFETY EXCELLENCE

Specialist contractor, **Concrete Repairs Limited (CRL)** has recently been awarded the RoSPA President's Award for Occupational Health and Safety.

The President's Award, the culmination of ten consecutive gold awards from the RoSPA committee, is recognition of the company's long-standing commitment to reduce the number of accidents in the workplace, whilst also creating its own everyday health and safety at work policy.

Tony Rimoldi, CRL Managing Director commented, "The RoSPA Award is testament to the significance we place on our duty of care as a construction sector employer. An accolade of this level proves that CRL is continuing to exceed the high levels of compliance expected".

Tel: 020 8288 4848 Website: www.concrete-repairs.co.uk



USER-FRIENDLY HANDBOOK FROM RESAPOL

CRA distributor member, **Resapol Ltd**, has just produced the latest edition of its 'Product Selection Handbook', which is specifically designed for buyers, estimators, engineers and architects.



The document pulls together construction chemicals, waterproofing, flooring materials and anchoring systems from all major manufacturers, to provide a comprehensive and user-friendly reference book.

Items can be located by using either the Product Index by Sector page or the Product Listing A to Z. Each product listed is supported by a summary description together with its performance capabilities, pack size, yield, coverage rates, primer requirements and/or other relevant supporting products.

Resapol is a leading national independent distributor of construction chemicals with depots in the North West, North East, London and Dartford who specialise in stocking and supplying a huge range of products.

Copies of the new handbook are available upon request. Tel: 01942 609001 Email: info@resapol.com Website: www.resapol.com

WEBER.CEM PRODUCTS REPAIR CONCRETE FERRIER TOWER



Products manufactured by CRA member **weber.cem concrete repair** are being used extensively in a major £7 million refurbishment of the Ferrier Point tower block in the London Borough of Newham. The 66-metre tall block of apartments, built in 1968, rises 23 storeys and is the tallest still remaining from the many built in London around that period.

The project is viewed as a flagship renovation by Newham to prove that today's building technology can push up sustainability and performance to achieve 'Decent Homes' standard for the 143 apartments.

Work includes the renovation of the core structure and the precast panel facings, where moisture ingress has rusted some steel reinforcing bars, causing the surrounding concrete to spall and leaving the rebar further exposed. The affected areas are being cut out to behind the rebar to where the concrete is sound. The steel is cleaned before **weber.cem** keycoat is applied to seal the steel and substrate and to aid repair concrete adhesion. Reinstatement is with **weber.cem HB30**, a high-build, polymer modified cementitious mortar.

To enhance protection, **weber.tec** guard MCI, a corrosion inhibitor that is absorbed by the concrete and migrates to preserve the embedded steel reinforcing bars, is being applied. Finally, before insulation and cladding is installed, the entire concrete surfaces are being jet washed prior to the application of **weber.cote** smooth, an acrylic anti-carbonation, chloride ion resistant coating.

WEBER: 01525 718877

THE PASMORE APOLLO PAVILION CIVIC TRUST AWARD



CRA member, **Freyssinet Makers** (a division of Freyssinet Limited), working in conjunction with Burns Architects, has recently been awarded a Civic Trust Award for concrete refurbishment work on the Pasmore Apollo Pavilion in County Durham.

The Civic Trust Award was established in 1959 'To recognise the best architecture, design, planning, landscape and public art'. In addition to being judged on quality of design, projects granted the award are considered to have made a positive contribution to the local community with regards to culture, society, or the economy.

The Pavilion, originally designed in the 1970s by Victor Pasmore, spans a small lake and provides a pedestrian link between two estates. It was intended to bring these communities together, using architecture and abstract sculpture to create 'a free and anonymous monument which, because of its independence, can lift the activity and psychology of an urban housing community on to a universal plane'.

Freyssinet Makers carried out concrete repairs and refurbishment work on the sculpture. The project was unique in that the structure is not only considered a walkway, but also a piece of artwork and a centrepiece to the surrounding communities. The project has been described as having breathed new life into the piece of public art, not only aesthetically, but also in terms of improved access and lighting, which has contributed to more social interaction.

FREYSSINET LTD: 01952 201901

REINSTATEMENT AT EARLS COURT



When built in 1935, the iconic art deco Earls Court building was one of the largest reinforced concrete buildings in existence. Recently, however, Earls Court surveyors noted the Warwick Road basement concourse was showing visible signs of concrete delamination. Following a detailed survey, a full Jet wash of the substrate and hammer testing to determine the full extent of the deterioration, CRA member **Cemplas Waterproofing and Concrete Repairs Ltd** was appointed to undertake major remedial concrete and brickwork repairs.

Defective areas, including hairline cracking, were marked out in a series of straight lines to form a border. These were saw-cut at right angles along previously marked lines to a minimum depth of 10 mm. Where the steel reinforcement bar was exposed and corroding, concrete was removed to a depth of 20mm. Around the exposed corroded reinforcement bar it was removed until 50mm of clean steel could be achieved at both ends.

Two coats of Fosroc Nitoprime Zincrich steel reinforcement protector was applied to the cleaned reinforcement. The area was subsequently primed with Nitobond HAR and whilst tacky, received Fosroc's Renderoc HB Repair Mortar before being cured with Nitobond AR. Concrete and brickwork cracks were resin injected with Fosroc Nitokit Surface Sealant. Defective bricks were replaced, re-pointed and stitched. Upon completion of the repairs, Fosroc's Anti-carbonation coating was applied to provide a decorative protective finish.

CEMPLAS WATERPROOFING & CONCRETE REPAIRS LTD 020 8654 3149

BETCHWORTH AND RUSPER WATER TOWERS



CRA member, **Concrete Repairs Limited (CRL)**, has recently completed the refurbishment of two historic water towers for Sutton & East Surrey Water. CRL's proven track record in the repair and refurbishment of water retaining structures and its specialist knowledge, enabled its contract team to innovate a solution to repair both the exterior and interior of the towers on time, to budget and with due environmental sensitivity.

The contract, worth £430k, was tackled in four phases. The external work was carried out during the summer months and the internal repairs and linings during winter months.

"Both water towers presented a very specialist challenge," explained Mike Balletta, Infrastructure Manager for CRL. "They were originally constructed in 1930 from conventionally reinforced concrete. Although still in reasonable condition, the repair works were an important and necessary intervention to prolong their working life and maximise operability. Their location; one on private farmland and the other in a protected woodland area, meant that environmental issues were a key criteria in our approach to the works."

"Now the final phase of these works is completed we are confident that both water towers will continue to operate safely and efficiently, providing potable water to the local community. The life of both towers has been extended by some 25 years thanks to CRL's expertise and sensitive approach," commented the Project Engineer for Sutton & East Surrey **CONCRETE REPAIRS LTD: 020 8288 4848**

VERSATILITY IS KEY



Faced with refurbishing a series of interlinked water retaining structures that were leaking, Nottingham BASED Consultant Building Surveyors, King Sturge, called upon the expertise of CRA members - **Gunite (Eastern) Ltd** to find a solution.

Following the removal of the existing failed sheet membrane, new reinforced concrete bases were cast in each of the three raised 'ponds'.

To ensure no future water leaks, Gunite proposed using a hot spray applied polyurethane membrane system. The membrane is somewhat unique in that it can be applied to 48 hour old concrete and cures within a few minutes to provide a very tough, watertight finish.

This project has again proved Gunite's versatility in being able to provide specification advice on behalf of the client.

GUNITE (EASTERN) LTD 07739 000569

QUADRIGA STRENGTHENS BRIDGES IN TRICKY ENVIRONMENT



The East and West Bridges at Pont Llys Meirchion, Henllan, in Wales, have both been strengthened with carbon fibre composites, by CRA member **Quadriga Concepts Ltd**, for Denbighshire County Council.

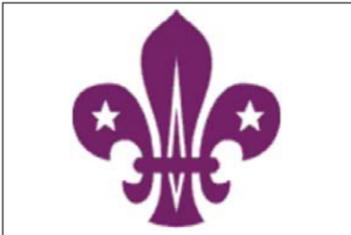
The works included the initial design of the strengthening system using carbon fibre reinforced polymer (CFRP) plates to meet specified client requirements in relation to Highways Agency standards.

Quadriga employed needle-gun preparation techniques to remove cement laitance from the concrete soffit surfaces and to improve adhesion by providing a mechanical key, prior to installing of the high modulus carbon fibre plates using a high strength epoxy adhesive.

Even though the work was carried out in a very difficult environment with very low head-room and continuously running water, Quadriga needed to ensure that deleterious contamination was prevented from entering the watercourse.

QUADRIGA CONCEPTS LTD: 01606 330888

BE PREPARED!



CRA member, **Structural Renovations Ltd**, has successfully completed further structural repairs and protection work to both concrete and steelwork at the Scout Association's Baden Powell House, in West London.

The work follows two earlier refurbishment projects, also carried out by Structural Renovations Ltd, in 2007 (structural repairs) and 2008 (liquid applied roofing membrane) at the property, which was built as a tribute to Lord Baden Powell, the founder of the scouting movement.

The repair and protection work to the structure, carried out in the early stages of deterioration, shows that the Scout Association is practicing what it preaches - 'be prepared!'

STRUCTURAL RENOVATIONS LTD: 01753 825511

CAN YOU AFFORD TO BE WITHOUT A COPY?

Several new features are included in the 2010 edition of the CRA's handy 56-page pocket-sized Members Directory.

For the first time, the Directory carries an easy to follow cross-reference grid highlighting each member company's third party accreditations.

Accreditations such as ISO 9001, 14001, 18001, ConstructionLine, CHAS, Exor, British Board of Agrément (BBA) and others, can be quickly and easily ascertained by the reader. In addition BS ISO 1504, the new concrete repair standard that came into force in 2009, is explained and the booklet contains details of several new members.

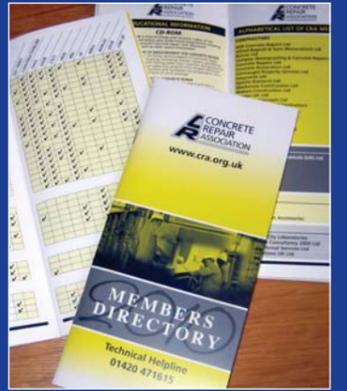
The popular one-third A/4 sized booklet, provides detailed information on the CRA's twenty-one contractor, seven product manufacturer, three distributor and four Associate members. It is specifically designed to be of practical, every-day use to Clients, Specifiers, Consultants, Surveyors and Local Authorities seeking recognised specialists involved in the practice of concrete repair and allied activities.

Each CRA member's page lists the company's head and regional office locations, web site, email details and the names of primary contacts. It also includes a description of the company's specialist concrete repair capabilities (or in the case of manufacturers and distributors, its products).

To facilitate selection when compiling tender lists for concrete repair work, each contractor's entry includes details of contract values catered for, the company's largest contract to date, its total turnover, the value of its concrete repair related business and its geographical area of operation.

The Directory also contains details of the Association's technical helpline; its NVQ/CSCS related training scheme and the Codes of Practice to which each member has committed. It also provides information regarding the Association's free CD-ROM, which contains audio-visual programmes and useful Advice Notes.

Copies of the CRA 2010 Members Directory are available free of charge. Tel: 01420 471615 or e-mail: publications@cra.org.uk



CURRENT CRA MEMBERS

| Contractors: | Telephone: |
|---|---------------|
| APA CONCRETE REPAIRS LIMITED | 01422 379640 |
| ALFRED BAGNALL & SONS (RESTORATION) LTD | 020 8311 3910 |
| BALVAC LTD | 01606 333036 |
| CEMPLAS WATERPROOFING & CONCRETE REPAIRS LTD .. | 020 8654 3149 |
| CONCRETE REPAIRS LIMITED | 020 8288 4848 |
| CONCRETE RESTORATION LTD | 020 8994 8860 |
| CONNAUGHT PARTNERSHIPS LTD | 020 3004 0010 |
| FREYSSINET LTD | 01952 201901 |
| GUNITE (EASTERN) LTD | 01480 466880 |
| JB SPECIALIST REFURBISHMENTS LTD | 01773 233259 |
| MACKENZIE CONSTRUCTION LTD | 0141 633 5555 |
| MAKERS CONSTRUCTION LTD | 0845 899 4444 |
| PRESTEC UK LTD | 0121 308 8001 |
| QUADRIGA CONCEPTS LTD | 01606 330888 |
| QUICKSEAL SPECIALIST CONTRACTORS | 01234 354198 |
| RENOCON LTD | 020 7538 5492 |
| REPEX LTD | 01435 866666 |
| REPLAS LTD | 01480 431117 |
| ROK CONCRETE REPAIRS | 01924 248350 |
| SEALABILITY LTD | 0870 405 0001 |
| STRUCTURAL RENOVATIONS LTD | 01753 825511 |
| TOPBOND PLC GROUP | 01795 414050 |
| VOLKERLASER LTD | 01905 742750 |

| Manufacturers: | Telephone: |
|-----------------------------------|---------------|
| BASF CONSTRUCTION CHEMICALS | 0161 794 7411 |
| FOSROC LTD | 01827 262222 |
| REMMERS (UK) LTD | 0845 373 0103 |
| RONACRETE LTD | 01279 638700 |
| SIKA LTD | 01707 394444 |
| TECROC PRODUCTS LTD | 01827 711755 |
| WEBER | 01525 718877 |

| Distributors: | Telephone: |
|------------------------------------|---------------|
| EPMS SUPPLIES | 01132 760037 |
| RESAPOL LTD | 01942 609001 |
| SIG CONSTRUCTION ACCESSORIES | 0845 863 0819 |

| Associates: | Telephone: |
|---|---------------|
| BIRMINGHAM CITY LABORATORY | 0121 303 9300 |
| THE CONCRETE CONSULTANCY 2000 LTD | 01707 647266 |
| MARTECH TECHNICAL SERVICES LTD | 01487 832288 |
| MATRIX SOLUTIONS UK LTD | 01454 616170 |

'CRACKING MATTERS' is published by the Concrete Repair Association (CRA), Kingsley House, Ganders Business Park, Kingsley, Bordon, Hampshire GU35 9LU Tel: 01420 471615 Fax: 01420 471611 Email: admin@cra.org.uk Website: www.cra.org.uk Comments and opinions expressed in the articles provided are those of the Author and not necessarily of the CRA. Rights reserved. No part of this publication may be reproduced or transmitted in any form, without prior written consent of the publishers. Twenty fifth edition: 21. 05. 10