Cracking Matters

CONCRETE REPAIR ASSOCIATION

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Addressing hand-arm vibration syndrome

By: Walid Hussain, Product Manager, Hilti (GB) Limited

The new Physical Agent Directive on Vibration sets strict exposure limits on the use of vibrating power tools and this is presenting a challenge to the construction industry to tackle issues such as productivity, control and compliance.

Employers (including CRA contractors), designers and clients are all seeking ways to comply with the legislation and strive to protect their employees from the risk of hand-arm vibration syndrome (HAVS).

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Many solutions have failed in the past because they are complex, not practical to control or inspect on a working site, or in many cases are commercially not viable.

This article presents a snapshot of a unique solution to HAVS that has been well accepted by many companies in the concrete repair industry, not only because it complies with the latest legislation, but also because it is simple, practical and commercially viable.

What is HAVS?
HAVS is a disease caused by the use of vibrating tools for prolonged periods. Tools used for drilling, breaking and grinding are considered to be high risk.

The disorder affects blood vessels, nerves, muscles and joints of the hand, wrist and arm. It is best known, and has been heavily referred to in the press, as vibration white finger (VWF), which can be triggered by a number of factors and can cause severe pain in the affected areas.

Workers need to look out for tingling and numbness in the fingers, discolouration of the area that is accompanied by pain and loss of feeling and reduction in strength in the hands. The longer the symptoms go unnoticed or ignored, the more disabling the problem becomes. It can take a few months to several years for signs to appear.

In many cases the early symptoms are usually reversible and could disappear if the user stops using these vibrating tools.

Who is responsible?
Employers have the duty to protect their employees. The law requires protection to be

undertaken in a number of important ways:

- assess the risk to the health of your employees and plan for its control
- manage the risk
- provide suitable equipment for your employees' use
- maintain equipment correctly
- give your employees information and training on health risks and safe use of the equipment
- provide health surveillance of your employees where risks cannot be completely eliminated
- provide reports to the relevant enforcing authority of cases of HAVS in your workforce
- consult your safety or employee representative on your proposals to deal with vibration hazards.

While this list may at first seem daunting there are five key elements to ensure companies comply with the legislations while reducing HAVS risk to their employees.

On far too many occasions, a worker uses the wrong product for the wrong application

Use the correct product
On far too many occasions, a worker uses the wrong product for the wrong application. This may be down to laziness or, most likely, ignorance. By using the correct tool the vibration level can be seriously reduced and the time taken to complete the job can be minimised.

Workers and employees must also look at alternative methods to achieve their final objective that can remove the use of vibrating equipment altogether. For example, diamond drilling is simple and cost-effective with today's modern machinery.

Vibration data
Manufacturers have a duty by law to supply vibration levels of their tools so that they can be used to calculate exposure limits. One key issue that employers need to be aware of is that internationally agreed vibration test codes exist.

HSE recommend that testing should be done in accordance to BS EN 5349 and tests should be done by a competent person. However, laboratory tests do not accurately reflect real-life conditions. Make sure that the vibrating data you obtain is relevant to real-life. If in doubt ask the individual manufacturer for further details and don't always believe what you read!

The 'Hilti Solution', for example, will give the maximum amount of holes each employee can drill or the volume of concrete that can be broken out before they become susceptible to problems. This also reduces the pressure on the worker to manage on the old 'time per job' method which is unworkable.

Maintenance
An old, poorly maintained machine will take longer to achieve the task and will increase its vibration levels as parts wear. Tools should be maintained and serviced at regular intervals in accordance to manufacturers' specifications. Manufacturers should provide information on when this service should be done and what parts should be serviced so that vibration and performance stay constant throughout the life of the tool.

Consumables
A well maintained machine is doing nothing to reduce the risk of HAVS if the drill-bit or chisel is blunt and underperforming. Worn out consumables increase vibration exposure time significantly and hence increase HAVS health risk.

Training
Last, but by no means least, is the direct interaction between employer and employee and all CRA contractor members are currently tackling the issue. All of the above measures can be addressed, but if the

(Continued on Page 4)

PRAISE FOR NEW 'STRENGTHENING' CD-ROM

The CRA's new CD-ROM containing a new presentation entitled 'Structural strengthening with composites' has been well accepted in the market place. Since its launch, in February, approximately 750 copies have been requested and issued to interested organisations.

Neil Loudon, SSR RDS Structures Design & Movement, Highways Agency writes, "I have now had an opportunity to view the main presentation of the CRA CD-ROM. It is certainly well produced and provides a good balanced overview of the use of fibre reinforced polymers composites for strengthening".

Such comments are very welcome to the Association, who is investing heavily in helping to educate and inform with regard to this relatively new technique.

The CD-ROM, which explains how the new technology has evolved, the types of composites available, quality control testing and how they are installed etc., is available ***free of charge***. It also contains the hugely successful 'Route to a successful concrete repair' programme, together with a CRA Members Directory, other useful CRA guidance notes, a bibliography of allied publications and a list of useful addresses.

Copies can be obtained from the CRA, Association House, 99 West Street, Farnham, Surrey GU9 7EN.
Tel: 01252 739145. Fax: 01252 739140.
Email: info@associationhouse.org.uk Web site: www.concreterepair.org.uk

INSIDE

CRISIS CONCRETE!

Perhaps for this issue, this regular feature should have been headed 'Crisis scaffolding'!

The picture was taken by a CRA member during one of his jaunts to Europe. His declaration upon returning was 'How come there's one rule for us and another for our partners in the EC?

Fair comment …..

THE DEFINITIVE GUIDE TO CONCRETE REPAIRERS

The CRA has just updated and published the 2004 edition of its handy and informative Members Directory, which is specifically designed to be of practical, every-day use to Specifiers, Consultants, Surveyors, Local Authorities and Clients.

The latest edition includes updated information on virtually all of the CRA's thirty-three member companies, comprising of the majority of the UK's established specialist concrete repair contractors and product manufacturers.

The 52-page pocket sized booklet gives information on each Member Company, its head and regional office locations, web site, email details and primary contact names.

Copies can be obtained **free of charge** from Association House, 99 West Street, Farnham, Surrey GU9 7EN.
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MODERN DAY HEALTH A

By David Bowen Bravery, Consultant, Alan Conisbee and Associates

In answer to the question "How does one write an article covering the subject of health and safety in not more than 1800 words?" the usual reply is "just cover the subjects closest to your heart". Well, that I certainly can do, so here goes.

Nobody can credibly argue that health and safety should not be of major concern to contractors, engineers and clients alike. In today's litigious climate, directors and senior managers of most organisations are generally only too aware of the health and safety issues and the drive to reduce the unacceptably high injury and death rates on British construction sites. In addition to construction activities, many clients now take reasonable measures to ensure that buildings are kept in a safe state of repair, such that loose building fabric (usually, but not exclusively, by way of spalled concrete and brickwork) does not fall from above onto unsuspecting persons below. The awareness of health and safety issues has increased significantly in the past 10 years, seemingly brought about by the issue of much legislation, action by the HSE, and litigation against both companies and individuals. This has very much concentrated people's minds and significant effort has been expended in developing health and safety policies and procedures.

are we really sure that this has led to a new culture of health and safety thinking

But, if we are honest, are we really sure that this has led to a new culture of health and safety thinking throughout the construction industry? Much appears to be lip service in order to avoid prosecution. Many middle managers still carry on in the same old ways and resent the new obligations. There is a discernible harking back to 'the good old days'. All too often construction sites remain a major health and safety hazard, exemplified by debris, dangerous access and disgusting toilet, messing and washing facilities. Young graduate engineers have no real concept of the issues and clients resent the extra costs involved in complying with the new legislation.

These problems are not to be found on every project, of course, and many organizations now go to great lengths in taking their responsibilities seriously. But often health and safety issues are simply being brushed under the carpet. Too many building sites and indeed some buildings, remain very dangerous places. Criticism of such practices is not always well received and those who would seek to improve matters are often labelled 'impractical', 'troublemakers' or 'too conservative'. Take it from one who has had first hand experience; anyone who has been on site and actually had the misfortune to witness a fatality, will have a completely different view from those who simply read the statistics. It is not an experience one would wish to repeat. Over a career spanning 40 years I have witnessed two fatalities and been deeply involved with two others as an expert witness on subsequent litigation. Therefore, you might say that my views on this subject are heavily biased in favour of positive preventive action.

This is not to say that many site health and

NEWS from CRA Members

Use the enclosed Fax-Back to obtain more information

WELL-GROOMED MSCP'S ARE POSSIBLE

Concrete Repairs Limited (CRL), the UK's leading specialist main contractor, has completed an £800,000 refurbishment of Glasgow's six-storey Charing Cross car park for Glasgow City Council.
Although the car park was closed for the duration of the contract, the project was not simple to implement. The structure is close to a theatre, hotel and offices and is located directly above the Railway Station, but CRL came through with flying colours.
Spalled and deteriorated concrete was removed by hydro-demolition and both sprayed and flowable repair mortars applied to reinstate the various profiles. All decks received new waterproof membranes and anti-carbonation coatings were applied to protect the soffits and columns. CRL also re-sealed expansion joints, renewed electrical systems, including lighting, CCTV and fire alarms and replaced all existing vehicle barriers and signage.
For further details telephone John Drewett on 020 8288 4848 or Email: mail@concrete-repairs.co.uk
www.concrete-repairs.co.uk ENQUIRY NO: 1305

THE SCIENTIFIC APPROACH!

Yoldings have won the Science Museum contract for Concrete Repairs to the staircase columns. On site now, the contract also involves replacement of damaged glass bricks to the structure – no easy feat, as the bespoke nature of the bricks involved manufacturing new dies. Repairs are being effected using the WeberSBD Mulsifix system.

ENQUIRY NO: 1302

THE CONCRETE CONSULTANCY 2000 LTD

As an ISO 9001:2000 accredited firm, a member of the CRA and with a wealth of experience both at home and overseas, the **Concrete Consultancy 2000 Ltd** offers a truly independent service for the assessment and testing of reinforced concrete structures, upon which Engineers, Consultants and Surveyors can rely.
Employing the latest and most cost-effective access and analytical techniques, our clients are assured of both a professional and practical service from initial enquiry, through site and analytical works, to the final reports, recommendations and assistance with specifications.
Tel: 01707 647266, or Mobile: 07775 940896

ENQUIRY NO: 1303

STONECARE

One of the key players in the concrete repair industry, Stonecare attributes its strength to constant innovation. Its pioneering philosophy, including state of the art techniques, enable a wealth of remedial work to be performed whilst buildings are still in use.

An example of this approach is work carried out by Stonecare on the Hunters Bridge car park refurbishment in Welwyn Garden City. Due to concerns over hand arm vibration, Stonecare worked closely with its supply chain partners to introduce low vibration breaking equipment. These low vibration tools can be used up to six times longer than conventional breakers and grinders, creating a higher output and a reduction in risk. Stonecare has since introduced guidelines to ensure the use of these tools on all sites.

Stonecare has been established in the repair and maintenance of concrete buildings for more than 40 years and is part of Rok Property Solutions.

For more information contact: Chris Fellows on 01908 679222

ROK develop • build • maintain

ENQUIRY NO: 1304

FLEXCRETE HITS THE DECK RUNNING IN COLCHESTER CAR PARK

Flexcrete has supplied some 18,000m2 of its advanced Flexideck Xeros waterproof decking system to provide long term protection for the St John's multi-storey car park in Colchester, Essex. The Flexideck Xeros System was chosen to waterproof the three split-level decks, enhance their appearance and provide superior protection against deterioration. Furthermore, unlike most other decking systems, Flexideck Xeros could be quickly applied directly over the asphalt interdeck without needing to remove the asphalt, thus ensuring that the car park could be rapidly returned to normal service. Providing exceptional performance, the system will also significantly reduce future maintenance costs for the car park.

For further information, please call 01772 255074 or email shc@flexcrete.co.uk ENQUIRY NO: 1306

ND SAFETY - *a new culture, or just lip service?*

safety issues are not problematical in the extreme. Take for example the erection and dismantling of scaffolding. The more recent adoption of fall arrest equipment was designed to reduce risks, but scaffolders have assured me that it has not done so. Indeed, it has made matters worse, because it can throw them off balance. Old ways die hard. Thus I have noted the tendency for scaffolders to have the equipment, but not to secure it. Try telling any scaffolder what he should be doing and stand back for a diatribe of abuse! Be this as it may, it must be done. Any visiting engineer or architect would be well advised to record such advice. Enforcement seems to be the only answer.

And what about handling the risks of hand arm vibration (HAV), commonly known as "vibration white finger"? In the concrete repair industry this is a very real dilemma for the breaking out of defective and/or carbonated concrete prior to repair. The HSE has issued guidance on the use of breaking-out equipment, which requires frequent rest periods. Strict compliance with these recommendations would be very costly and it is difficult to envisage how a contractor can competitively tender and comply, albeit specification requirements on curtailing hours of noisy work to limited periods (in the interest of reducing the effects of noise and disturbance to occupants of adjoining buildings- itself a health and safety issue) would serve to ameliorate this problem. HAV, however, is a very real issue in the concrete repair industry. It is a serious risk and HAV judgments in the mining industry have been very severe. While rest periods will go some way to resolving these problems, I cannot help thinking the use of newly developed low vibration breakers (now being brought onto the market by Hilti and Flottmann amongst others) will prove to be the most effective solution. In the meantime, contractors who disregard the HSE recommendations will have a competitive advantage over those who comply. Again, enforcement seems to be the only meaningful solution.

However, while it remains the contractor's responsibility to properly handle all such problems on site, other members of the design team can constructively contribute to reduce site risks. This should not be restricted to 'bare bones' compliance with the CDM regulations, but to bringing matters of concern to the contractor's attention, both before and during construction. This is where the Partnering principles now being adopted by many clients come into their own, as such an approach involves the contractor at an early stage in the design process, where health and safety issues should be on every meeting agenda. Accordingly the contractor will be very much aware of health and safety issues before he even sets sight on the contract documents.

Be that as it may, with tender periods seemingly getting shorter and shorter and contract documentation becoming bigger and bigger, I have every sympathy with the contractor's estimating department, who is landed with monumental amounts of documentation that has taken 6 months to produce and is expected to come up with a comprehensive tender submission in just 4 weeks. This situation is often complicated further by Planning Supervisors, who often delight in the production of a magnus opus of a Safety Plan which covers everything, including the kitchen sink!

I firmly believe that it was never the intention of the HSE to end up in the situation that now prevails. A new profession has been created, acting solely as Planning Supervisors and therefore becoming more and more divorced from mainstream activities. Many appear hell-bent on making the CDM Regulations as complicated as they can possibly make them, seemingly to justify their own existence and the proliferation of their profession. A voluminous tome of a Safety Plan is not what a contractor needs. What he needs (and wants) is a simple document highlighting those risks that a reasonably competent contractor would not be expected to know. He does not want to be told how to safely offload materials from the back of a truck! If he needs to be told this, he is not competent and should not be invited to tender in the first place. Most contractors' site staff will readily appraise a simple Safety Plan that highlights the important risks, but are far less likely to plough laboriously through a proliferation of 'padding', written with the sole intention of covering every conceivable risk that can

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Managing car park structures

'There are well over 4000 multi-storey car parks (MSCPs) in the UK, almost all of which have been built since 1940, including a boom in construction in the 1960s. Most of these car park structures are of reinforced concrete construction. They were designed to normal building standards and many have a history of early deterioration, structural defects and safety shortcomings due to poor design and construction and low standards of maintenance and repair. Experience has shown that these structures are subject to a much more severe environment, more akin to the exposure of bridges. The consequential deterioration (particularly reinforcement corrosion due to the effects of de-icing salt) has had a major impact on their durability, with a few partial collapses and accidents involving vehicles breaking through edge protection barriers. As a result, closures for costly repairs and/or rehabilitation have been required and the experiences have emphasised the need for improved performance and safety of existing car park structures.'

The above quote was made by Adrian Long, President Institution of Civil Engineers, in December 2002. But how should MSCPs be managed and where can you find helpful information?

The starting point is to discover the causes of distress and deterioration and it is essential to carry out an investigation and assessment of the car park structure. There are different publications that provide guidance on the format and the technique employed for such investigations:

1. BRE Centre for Concrete Construction – Digest 444 Part 2
2. ICE – Recommendations for the inspection, maintenance and management for car park structures

It is important to balance the cost of any investigative work with the benefit that the information derived will provide; but an appropriate investigation and assessment strategy may be critical to the whole process of both maintaining and extending the service life of a car park structure. There are different levels to carry out an investigation, such as:

Daily surveillance or routine inspection
Condition survey
Structural investigation
Thermal variations
Atmospheric carbonation
Rainwater
De-icing salts
Aggressive pollutants
Automotive fluids
Mechanical exposure
Movement

STANDARDS AND TEST METHODS

A commission is currently developing a European standard for repair mortars, protective coatings and waterproofing membranes, which will probably be issued in the next couple of years. In the meantime, the German Rili-DAfStb (an equivalent in the UK is a British Standard) is the most complete and complex standard for those applications; in fact it is the only one that tested and categorised car park decking membranes.

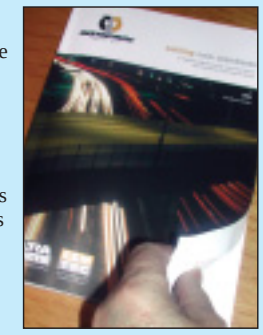
Depending on the type of structure, structural element and specific combination of exposures anticipated, the ideal protection of the car park deck may require more than one option. CRA members have, therefore, developed a range of standard car park decking systems, which are fully tested and appropriate for most car parks. These are top deck systems, intermediate deck systems, ground floor systems, ramp systems, systems for green, damp concrete or as a surface applied damp proof membrane and details for joints, covings, connection to gullies, pipes etc

The wide range means that all possible combinations of deck exposure can be safely met and systems can especially be designed after customer requirements.

FAÇADE RESTORATION

The restoration of reinforced concrete facades requires a high degree of skill in the selection and application of the materials needed to rebuild, re-form and protect. This is of particular significance if the integral architectural qualities and appearance are to be retained. In many instances the intricacy of the design, modelling of the facade and use of features, which form and create the building's unique and historic appearance, are all too frequently removed for economic reasons or lack of conviction. It is always therefore encouraging to see difficult and highly decorative examples being restored and brought back to life to serve contemporary society. All credit therefore to material suppliers and consultants **weber sbd** and to residents McCann Erikson who now occupy, for an entirely different function, what was once the important Frames Rickards coach station in Herbrand Street, Bloomsbury, London. For more information telephone 08703 330070 ENQUIRY NO: 1307

HOT OFF THE PRESS!



The 2004 edition of **Instarmac's** comprehensive product catalogue, detailing the company's 'Ultracrete' range of highway maintenance systems and its 'Cemtec' range of concrete repair and flooring materials, has just been published.
The 280-page manual is written in plain, easy to understand English and is intended to guide clients, specifiers and users through Instarmac's products and associated value-added services of training, technical and site support.
The publication contains an extremely helpful subdivision on everyday problems and illustrates the means by which to solve them. It also includes an estimator's guide, detailing
pack sizes and yields (usage rates) and provides instant access to extensive Health and Safety (COSHH) information. Since COSHH information can be complex and often needs to be disseminated among a number of people, it can be simply copied for inclusion into tender documentation.
For a copy telephone 01827 872244 ENQUIRY NO: 1309

FIBRE CONTENT GIVES NEW REPAIR MORTARS EXTRA STRENGTH

Degussa Construction Chemicals (UK) has launched new fibre-reinforced and shrinkage compensated repair mortars EMACO® S97HB High Build Repair Mortar and EMACO® R232 Fairing Coat for improved strength and performance.

EMACO® S97HB is a high-build repair mortar for spray or trowel application and provides a rheoplastic, non-segregating mortar with excellent bond to steel reinforcement and concrete. It can be built up in deep section structural repairs to 75mm vertically and 50mm and no separate primer is needed, allowing rapid application at reduced cost.

EMACO® R232 Fairing Coat is a trowelable mortar which can be applied to both new concrete and as part of a concrete repair system in layers 2-8mm deep. It is suitable for filling surface blowholes, cracks and irregularities, and provides a good surface for protective coatings.

To receive more information telephone 0161 794 7411, or e-mail mbtfeb@degussa.com. ENQUIRY NO: 1310

Addressing hand-arm vibration syndrome

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machine is still being used improperly then the risk of HAVS is still prevalent. Each individual must know that the correct posture, product usage and clothing will help in the battle.

Employees need to avoid gripping the tool too tight or forcing the machine as modern technology removes the need for such ancient handling. Encourage blood circulation by keeping warm and dry with gloves, hats and waterproof apparel. A reduction in smoking and increased exercise during breaks will also achieve the goal of minimising HAVS risk.

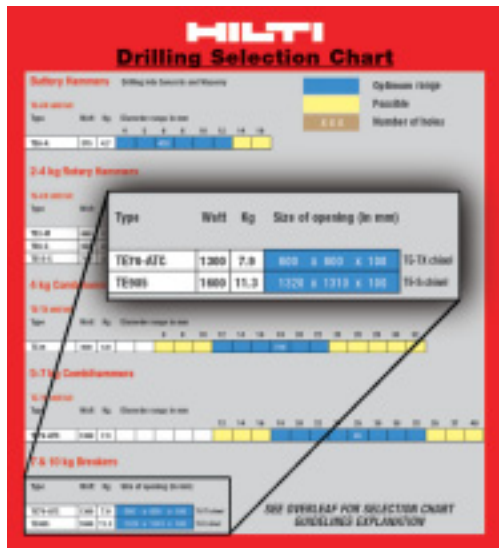
The best way to get the message across is through 'tool-box' talks, refresher courses and a vigilant eye on worker practices. This direct contact can be beneficial in ensuring that everyone knows what is at stake should precautions not be taken.

All-in-all the issue can be made wholly uncomplicated and easy to address. The end result is a workforce whose exposure to HAVS is limited and a company that can reduce its liability.

Any solution should consider:

- It is based on real life vibration measurement and not laboratory tests
- Correct product selection on a simple product selector which allows the operative to select the right tool for the right job
- Exposure limits expressed in terms of productivity. i.e. the number of holes or the amount of breaking that can be done in a day by an operative without exceeding the HSE recommended exposure limits
- Training and certification on purpose built training material that the employer can conduct on a site or office, complete with certification
- Specific tools with electronic time counter for the purpose of service and maintenance control to keep vibration and performance constant throughout the life of the tool
- Consumables with a work-mark or self-sharpening ability to control the sharpness of the inserts.

ENQUIRY NO: 1301



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be thought of. The whole process can become self defeating in the wrong hands.

This brings me to risks in general. Many accidents happen because the risk has not even been thought of or appreciated. Mostly if risks are thought of, a reasonable attempt of resolving the problem is made, so that one way or another serious mishap is avoided. On other occasions, measures taken to reduce risk in one area serve simply lead to other risks. Risk assessment measures seldom undergo risk assessment themselves.

Risk assessment measures seldom undergo risk assessment themselves

To illustrate these two types of problem within the building repair industry, consider the case of a structural appraisal of a high rise block. During the appraisal a significant amount of loose, spalling concrete is detected. Subsequent investigation and testing reveals corroding reinforcement beneath and advancing carbonation. The Engineer correctly reports on this and provides recommendations for long term repair. All well and good, but what happens in the period between setting up the repair contract, tendering and arriving on site? This can often take years, bearing in mind that many clients simply do not have instant monies for such work in their budgets.

Recommendations on interim safety measures to protect the general public from falling pieces of concrete in the years before repair is seldom provided in structural durability reports unless there is a structural stability problem. Yet this is a very real risk, clear for all to see. Such advice is essential, not only to safeguard the author of a report, but also the client in the event of an incident. Falling concrete from high levels, no matter how small, can do an awful lot of damage to a human skull. Often the knee jerk reaction to this (if the risk is appreciated at all!), is to rush off and erect scaffolding and/or safety fans. These are very costly items, which carry their own health and safety problems. Risks include providing access for children and thieves, loss of light in premises, vermin, ongoing stability, etc. I have been involved in one situation where boards from a 'protective' scaffolding were blown off in a gale and deposited some 30 metres away, embedded in the roofs of parked cars, which luckily were unoccupied at the time. It transpired that no risk assessment on the protective scaffolding had been undertaken, yet the risks posed by the remedy were far greater than the risk it was meant to overcome. The solution, both on financial grounds and from a reduction of risk standpoint, was clearly a properly specified safety survey, conducted by a specialist concrete repair contractor.

Of course, appreciation of the risks involved with building structures is itself a difficult procedure, with appraising Engineers needing to appreciate not only the long term durability characteristics of a range of building materials, but also to have knowledge of past building practice and weaknesses in older structures. With many older engineers (from the 1960s) now retiring, many problems of that time are not always appreciated. When interviewing candidates for the Institution of Structural Engineers part 3 examination, or for admission to Fellowship, mention of LSP high rise blocks and the problems associated with the Ronan-Point collapse (1968) are often met with a glazed expression. Meanwhile, owners of such buildings have been busy installing gas into the dwellings, not knowing that in 1969/70 such installations had been removed from the blocks, to satisfy progressive collapse criteria.

Structural Engineers are seldom used on such refurbishment projects. In any event, the mention of LPS blocks just does not raise the alarm bells any more, yet the risks to health and safety still remain, as evidenced by the new study group set up at BRE to look into modern day appraisal of these types of construction and the risks associated with them. There is no substitute for experience, providing it's the right experience! 'Geriatric' Engineers still have their uses!

The Author: David Bravery is a Chartered Engineer, a Fellow of the Institution of Structural Engineers and a Consultant with Alan Conisbee and Associates. He has been actively involved in the diagnosis and repair of reinforced concrete structures for the past 25 years.

ENQUIRY NO: 1311

WITH HIS LUCK, HE SHOULD GAMBLE A BIT MORE!

In the last edition of 'Cracking Matters' we asked you to complete a Reader Questionnaire and return it to us for entry into a competition to win a brand new digital camera.

Well, we are pleased to report that nearly 150 of you did and we would like to thank each and every one of you for your contribution. It has provided the Association with useful guidelines as to how best to meet your future needs.

The winner (drawn at random) of the stylish FinePix S3000 Zoom digital camera worth approximately £250, was Michael Grey, Senior Incorporated Engineer with Scott Wilson & Co. Limited, in Basingstoke, Hampshire. He is pictured receiving the prize and the congratulations of Bob Berry, the CRA's current acting Chairman.

Michael commented "It's the first thing I've won since a donkey derby draw when I was just 10 years old! I have never won anything on the national lottery" he added, "but then again, I have never bought a ticket either!" Sensible chap!