BRITISH PRECAST

construction news

Lean and green precast

...using natural resources effectively

uses plentiful, natural raw materials no need to import *incorporates an abundant natural resource which arrives by sustainable transport* USES CEMENTITIOUS MATERIALS FROM A RESPONSIBLE INDUSTRY WHICH IS REDUCING ITS CARBON EMISSIONS uses by-products from other industries uses recycled steel reinforcement the majority of factory waste is recycled...

www.britishprecast.org

USERS AND SPECIFIERS OF REINFORCING STEEL

CARES OR ?

CONSIDER CARES PRODUCT CERTIFICATION

✓Verified compliance with British Standards ✓Assurance of on-going compliance of every delivery
✓No need for further testing ✓No need for certificates ✓Avoid unnecessary site delays
✓Full traceability of steel from steel mill to site ✓Full backing of CARES in cases of complaints to suppliers

Fabric to BS 4483

Bar to BS 4449

NOW CONSIDER NON-CARES PRODUCTS

? HIGH RISK
that non-CARES approved steel will not have been fully assessed to the British Standards

? HIGH RISK
that traceability of steel from source to site is non existent

? HIGH RISK
that the steel will not consistently meet the requirements of the British Standards

WHY TAKE THE RISK? SPECIFY CARES

For further information about CARES please contact:-
UK CARES, Pembroke House, 21 Pembroke Road, Sevenoaks, Kent TN13 1XR
Telephone: 01732 450000 Fax: 01732 455917 E-mail general@ukcares.com Website: www.ukcares.com

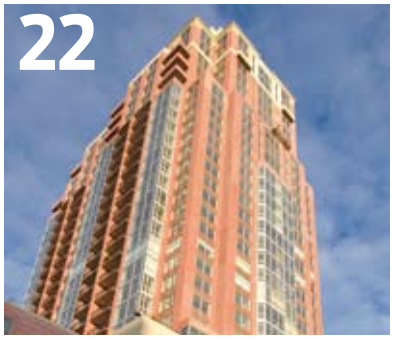
PUBLISHED BY
EMAP INFORM (A DIVISION OF EMAP LIMITED), GREATER LONDON HOUSE, HAMPSTEAD ROAD, LONDON NW1 7EJ
FOR BRITISH PRECAST, 60 CHARLES STREET, LEICESTER, LE1 1FB

CONSTRUCTION NEWS: EDITORIAL PROJECTS MANAGER, JENNIFER PALMER-VIOLET (020 7728 4929); ACCOUNT MANAGER, MARIA GONZALES (020 7728 4608); CN EDITOR, NICK EDWARDS (020 7728 4628)

BRITISH PRECAST: CHIEF EXECUTIVE, MARTIN CLARKE (0116 253 6161); MARKETING MANAGER, CHRISSIE WALTON (0116 222 9849)

COVER DESIGN: CARLA PRYCE
QUOTES ON THE COVER EXTRACTED FROM *THE LITTLE GREEN BOOK OF CONCRETE*, PUBLISHED BY BRITISH PRECAST

FEBRUARY 2009



Welcome to the credit crunch special issue of the *Construction News* Precast Supplement. We are delighted for the second year to present this for the general readership of *Construction News* but also for the visitors to Futurebuild and Ecobuild.

Once again we are pleased to support these two excellent adjoining events. Our main problem is to decide which one to locate in – both are particularly suited to the way that our industry is developing.

With at least another 18 months of tough times ahead, especially in housing, now is the time to rebuild and reposition our offer to the client, designer and contractor. In these pages you can find some pointers, but to really explore what precast concrete can offer please get to know us more.

Contact me if you want to discuss together the solutions that masonry and precast can provide – we will be pleased to supply a speaker or to come and meet you. If you want to get closer still please join us – British Precast has a membership category to suit your position in the supply chain and importantly to suit your pocket.

Martin Clarke, chief executive
martin.clarke@britishprecast.org

Lean, green precast machine

Martin Clarke, chief executive of British Precast, reports on how sustainability in precast is moving forward through the sharing of knowledge and commitment of member companies

Increasingly, the concrete industry is being seen as having a key role in delivering sustainable construction. I am delighted to say, that with our 'More from Less' sustainability strategy just completing its fourth year, we are leading the way within the cement and concrete sector.

Throughout this period we have had excellent leadership from our Doctorate student Ian Holton and colleagues at Loughborough University.

In the last 12 months we have been working hard with our colleagues in cement and ready-mixed concrete to deliver a unified approach to the market and to Government – an approach that recognises our commonality but also our differing attributes.

The vehicle we have created is the Concrete Industry Sustainable Construction Forum, a group of companies and trade bodies that, in July, signed an important agreement whereby we agreed to work together to some stretching sustainability goals between 2008 and 2012.

The signing formed the climax to a one-day workshop led by Jonathan Porritt and Forum for the Future. Our first report will be published next month and will set out the roadmap that lies ahead.

Four working groups are focussing on all the objectives of the pledge. British Precast is pleased to be leading the group on education and training.

Particular focus is on setting up a new structure of sustainability skills training where we plan to roll out trial courses in the spring with the National Construction College and the support of Proskills.

The recession poses its own challenges to training budgets and clients, so the focus will be on value, relevance and payback. Together we are determined that all aspects of sustainability will be taken forward and will not be allowed to become victims of these hard times.

Responsible sourcing

During recent months we have been working hard to develop guidance to the new BRE

New Sustainability Charter members sign up

standard BES6001 on Responsible Sourcing of Materials. This was achieved by the target deadline of December 2008. Our members are able to tap into the experience of BRE and our staff to gain accreditation and those much sought-after 'eco points' under the Code for Sustainable Homes.

Good progress has been made in the first year of our Sustainability Charter launched at the end of 2007. The aim of the Precast Sector Sustainability Charter is to encourage member companies of British Precast to go beyond legislation and take voluntary actions to make their products and operations more sustainable.

In order to meet this aim, a set of sustainability principles has been developed based on the key sustainability issues facing the precast industry. These were identified by British Precast following consultation with the industry and examination of the priorities and concerns of its primary stakeholders.

Since the charter was launched on 29 November, 2007, 18 companies have made a formal declaration to adopt the principles into their normal business and working practices. Those recognised as 'Charter Signatories' are:

- Aggregate Industries
- Bell and Webster
- Brett Landscaping and Building Products
- Buchan Concrete Solutions
- Carter Concrete
- Coltman Precast Concrete
- Cornish Concrete Products
- FP McCann
- H+H UK
- Hanson Building Products
- Litecast
- Malling Products
- Marley Eternit
- Marshalls
- Milton Precast
- Roger Bullivant
- Tarmac Building Products
- Trent Concrete

To ensure that signatory companies are complying with the spirit of the charter and taking voluntary actions to improve their performance on sustainability, British Precast has developed a set of performance requirements against which companies are to be audited.

Audit purposes

'Charter Member' status will be awarded to those companies demonstrating the required level of commitment across a broad range of issues, and will be reviewed bi-annually.

The results of the first round of audits will be announced this year. Initial indications are that companies are finding the audit process a useful way of sharing knowledge and identifying potential areas for improvement, and that there are some clear sustainability 'champions' in the industry.

"A set of sustainability principles has been developed based on the key issues facing the precast industry"

Innovate and prosper

Thinking outside the concrete box is the future and now is the time to act, says British Precast chief executive **Martin Clarke**

When this recession is over in a year or two, the construction industry will be very different from the one that dived over the cliff in spring 2008.

When we start to invest again in the new homes and renewed infrastructure that the country desperately needs, the key players will be unfamiliar. Friendships and networks will have gone, and there will be many new names around.

Finance sources will have changed. Russian and Chinese investors may have arrived big-time. Clients' priorities will have been reassessed. Attitudes to product specification will have moved on.

For construction product makers, the priority during these tough times must couple cost control to an informed change programme so that market opportunities can be maximised in the upturn.

There will be winners and losers in the process, and the chances are that the winners will be those with the ability to judge the new markets and the foresight to innovate.

For the precast producers, this period is a great opportunity to build the product and service portfolio for future market need. 'Construction solutions' is an overused term but that is what the precast and masonry industry has to provide.

The winners will be those that add more value to the concrete – value for the client, for the tenant, for the insurer. That means thinking well beyond precast concrete as a material.

Seize the moment

In the last few years, great strides have been made in applied concrete technology. Several key developments are ripe for exploitation and this is the right time in the cycle to grab them; after all, much of the cost of invention and development has been incurred already.

Here are just six of the best:

- Radio frequency identification devices – RFIDs buried in benign concrete can feed back performance data from completed structures, they can even warn of overloading. Readable tags can contain vast banks of data and drawings
- Photoengraving – by using retarding techniques, precast components can carry detailed photographic images
- Fabric reinforcement – the use of textile fabrics opens up the prospect of a new generation of thin tough sections
- Ductal and Ceracem – not yet seen in Britain other than in books and presentations. These ultra high performance concretes give precast a direct entry to new markets for much thinner reinforced sections
- Translucence – no architect can resist the appeal of translucent precast concrete, as yet little seen in the UK
- Self-cleaning precast – the addition of titanium dioxide means that concrete surfaces can remain free of dirt and microbial growth. White concrete will stay white for centuries. Moreover, self-cleaning concrete helps to reduce nitrous oxide fumes in urban environments.

A piece of translucent concrete in a tiled wall visibly proves itself

The 2009 British Precast innovation award is now open for entries and will be announced at the awards lunch on 12 May in Leicester.

HEALTH AND SAFETY RECORD CONTINUES TO IMPROVE

CONCRETE2010

British Precast's Concrete Targets 2010 Scheme pledges to reduce RIDDOR reportable accidents and lost time by a minimum of 50 per cent in five years, with an overriding goal of zero accidents.

To achieve these ambitious targets, the 29 member companies taking part are encouraged to share health and safety information within their own companies and hold regular committee meetings. They are required to submit health and safety statistics to the scheme administrators every six months. Data includes RIDDOR reportable accidents and major injuries, chronic injuries (an injury that occurs but cannot be associated to a specific event), time lost due to accidents, subcontractor reportable accidents and HSE enforcement notices.

Members' experiences and learning points are included in British Precast's Safety Alerts, which are sent out to the industry. Their activities are channelled flexibly into three core areas: physical safety, occupational health and human factors, which allows them to react to any situation that requires a rapid industry focus.

The HSE supports the scheme along with Lord Hunt of Kings Heath, former minister for health and safety and Dr Elizabeth Gibby, HSE director for the Injuries Reduction Program. The CT2010 Scheme continues to back the HSE's campaigns.

The HSE also supports the scheme's Special Working Groups, which are set up for specific projects, such as the work commissioned to improve the securing and covering of loads.

The CT2010 Scheme succeeds British Precast's original Four Star Scheme which ran from 2001 to 2005 and resulted in a 45 per cent reduction in RIDDOR reportable accidents. The current scheme, launched in 2006, reports on almost 20 per cent more employees than its predecessor, and reportable accidents have reduced by more than 65 per cent to date.

The Four Star Scheme was a response to the Government-led initiative Revitalising Health and Safety, and the CT2010 Scheme falls in line with the HSE's Target Zero approach, launched in 2005.

Scheme members are recognised at an annual Concrete Targets Awards dinner. In addition to bronze, silver and gold titles, an award 'Seal' is given to those whose performance in accident reduction has matched or exceeded the scheme's targets.

The CT2010 Scheme also honours the valuable contributions of individuals and small teams by the presentation of an Outstanding Contribution to Health and Safety award, which is available throughout the year.

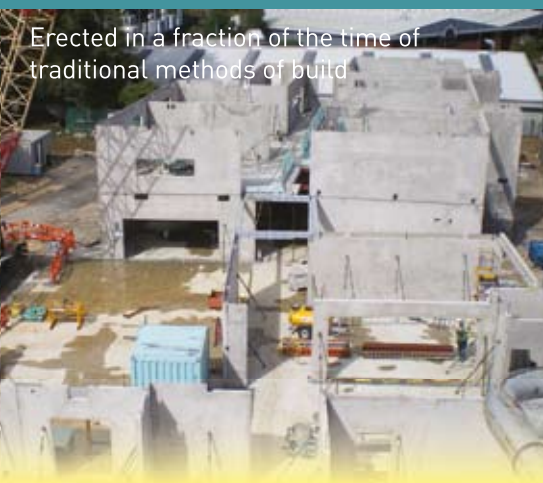
■ www.concretetargets.com

Buchan
CONCRETE SOLUTIONS

Excellence in Precast Concrete
Offsite Construction
Building Schools for the Future


Piling


SystemFirst Foundations


Erected in a fraction of the time of traditional methods of build

As part of the Roger Bullivant Group we can now offer a full package for sub and super structure


Full Design, Manufacture and Installation Service


High Quality, Innovative, Robust and Sustainable

Visit us at: **Futurebuild**
3 - 5 March 2009, Earlscourt, Stand No.2558

Apartments, Classroom extensions, Custodial, Hospitals, Hotels, Schools, Sports halls, Student accommodation

T: +44 (0)1606 843500

www.buchanconcrete.com

Buchan Concrete Solutions King's Lane Byley Middlewich Cheshire CW10 9NB

Part of the Roger Bullivant Group of Companies

CPD CERTIFIED Construction CPD Certification Service

MPS GD/AD/380

Kit for the future

Thought that the boundaries for precast concrete had been stretched as far as they could? Think again, writes **Paul Thompson**

Decorative leaf detail on a Kit Kaboodle commission

To the engineer, concrete is a utilitarian commodity, to the general public it is that grey stuff on the outside of buildings, and to others it is a beautiful material for sculpting into art forms that improve the urban environment – and look rather good.

James Armstrong falls into the latter group. As director of British Precast member company Kit Kaboodle, the former sculptor and furniture maker has a different take on concrete's advantages.

"People have a rather odd perception of concrete," he says, "but they will readily accept that a terrazzo tile is beautiful. All we do is take that beauty and apply it in three-dimensional form."

Kit Kaboodle's bespoke products are light years away from standard structural precast concrete or even architectural precast. Not bad for a venture that started almost by accident after Mr Armstrong studied the use of concrete for his Master of Arts in Furniture Design.

"I looked at using concrete in our designs for my Masters. Then when we set up the business, everyone seemed to want the concrete products," he says.

The company, which commenced exclusive production three years ago, supplies a range of sectors including commercial, retail and local authorities and counts some big names among its client base.

It created bespoke polished concrete and glass benches, plinth and sinks for the launch of trendy eatery Wahaca in Covent Garden, London. The success of that project led to work for the Westfield shopping centre branch of Wahaca in Shepherd's Bush. Islington Council is another repeat investor.

Expanding the range

Mr Armstrong is happy that the company is well enough positioned to focus on the bespoke nature of its products but admits that there may be an adjustment to provide an off-the-shelf range.

"In the past we have concentrated on bespoke work because that is what our clients have demanded," he says. "The problem is by doing that our workload is inconsistent, it seems to be either feast or famine and in this market we need to iron that out a little," he says.

Those products will be made at the company's workshop in Peckham, south London, using techniques and mixes honed over the years. The beauty of this product and casting is that the designers are able to incorporate different aggregates and admixtures without worrying too much about its structural performance.

The innate strength of concrete is normally enough to withstand most loadings on its products although Mr Armstrong does admit to using glass fibre reinforcement for notably slender sections.

"If there is any need to talk about a product's structural performance we seek advice from specialist engineers. We can use a variety of aggregates, including recycled. Everything is wet cast into rubber moulds which are set upside down so that we fill from the bottom ensuring we get really clean top faces.

"The whole thing is then mechanically vibrated so that the final finish is extremely sharp," he says.

The mix contains a tried and tested complex array of admixtures that work alongside the different aggregates that can be specified. Superplasticisers help improve the workability of the mix while an anti-foaming agent helps to improve the surface finish. Acrylic polymer admixtures help ensure the concrete can cure before it dries out, particularly in the thinner sections.

> **"People have a rather odd perception of concrete"**
> JAMES ARMSTRONG, KIT KABOODLE

Bespoke solutions

With Islington Council already on its client list, Mr Armstrong is happy that the urban regeneration and public landscaping sectors will help his business through the downturn.

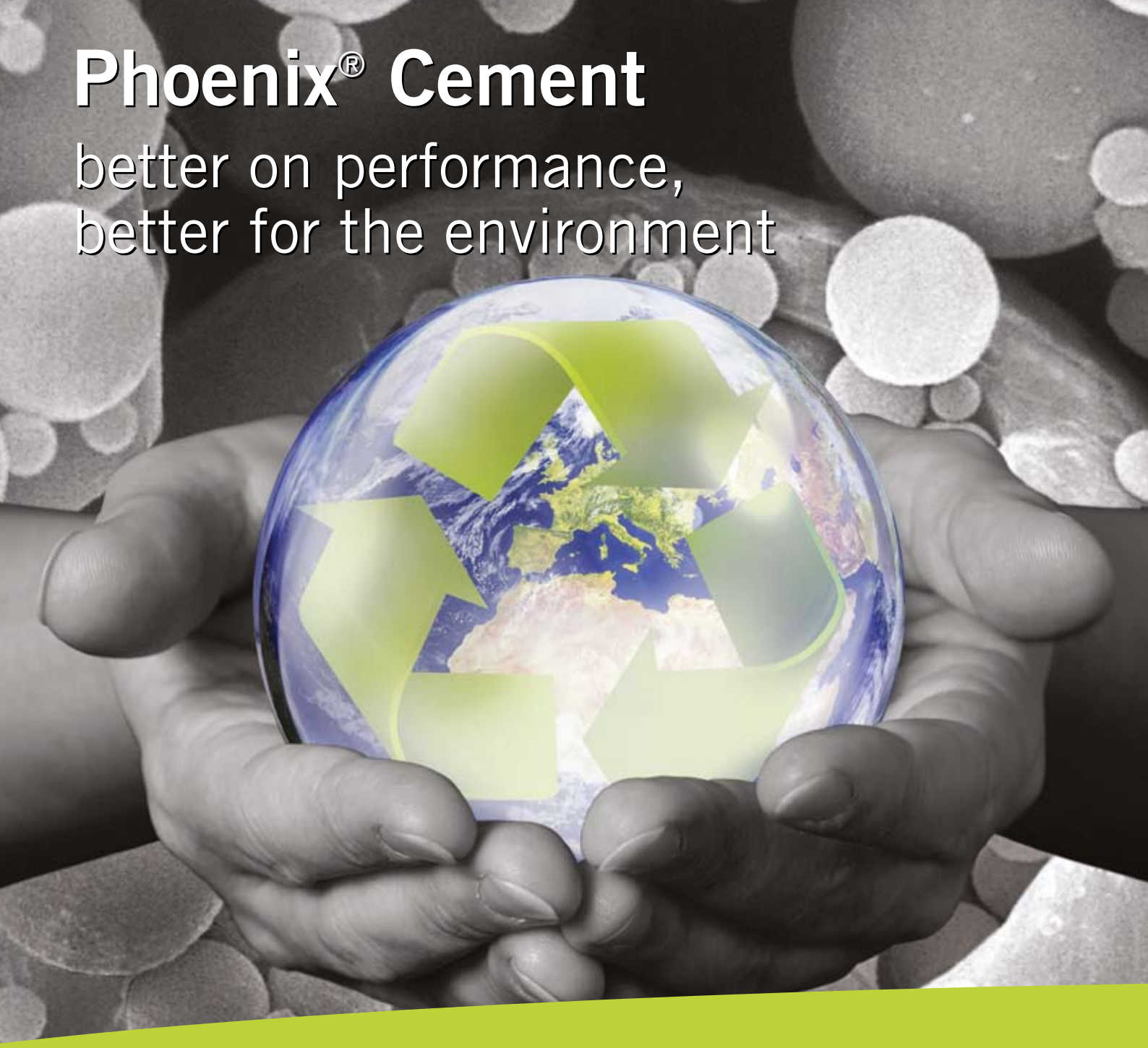
"We are a little quieter at the moment than we have been in the past, but we still have good order books. We make a high-end product normally specified on large projects, which are insulated a little from the rest of the market.

"That said, if anyone is looking to trim costs we are often among the first things to be looked at," he says.

Neckton stools, designed by Zaha Hadid, were manufactured for Established and Sons

Phoenix® Cement

better on performance, better for the environment



At Lafarge Cement we're committed to developing products that promote sustainable construction. **Phoenix®** is a CEM II Portland-fly ash cement that combines environmental responsibility with superior performance.

Ten reasons to use Phoenix®

1. Quality assured CE Marked product
2. Lower embodied CO_2 than CEM I Portland cement
3. Single point ordering (compared to using separate ash and Portland cement)
4. Enhanced sulfate resistance
5. Reduces risk of ASR
6. Reduced mixing times (compared to using separate ash and Portland cement)
7. Manufactured by Lafarge, the world's largest cement producer
8. Improves pumpability
9. Enhanced resistance to chloride ingress
10. Strength gain after 28 days

LAFARGE

bringing materials to *life*

www.lafargecement.co.uk

Technical helpline tel: 0845 812 6232 Customer services tel: 0845 812 6300

Lessons in precast concrete

It's a piece of the pie that contractors are increasingly cutting up for the precast plate. **Paul Thompson** looks at how the Government's investment in the school building programme is affecting the sector

Government spend in the education sector has always been seen as a bit of a fillip to contractors. A pat on the back by local authorities in the form of a six-week bonus project to be fitted in at a scramble during the school holidays, rather than a serious sector to which serious time and effort should be devoted.

But ever since the Government unveiled its multi-billion pound school renovation programme, Building Schools for the Future, education has been eyed differently.

The cash injection has transformed the build programme with new secondary schools sprouting up around the country.

And with a new band of funding in place that will ensure a similar growth for primary schools, the Primary Capital Programme, it seems increasingly likely that contractors will be sent back to school.

The precast concrete industry is well placed to take advantage of this rich seam of work and has been making inroads into the sector through the increased specification of structural precast systems.

The new-build primary school market in particular has seen a surge in the use of precast systems with designers and architects happy to specify it.

Julian Taylor, technical director at structural precaster Hanson Structherm, says: "Primary schools are generally designed as single or two-storey buildings with a relatively simple roof structure.

"They are designs that precast can easily build. There are not too many primary school designs that can't be built using precast concrete."

The secondary schools sector could do better, he concedes, but in order to achieve this there has to be greater involvement at an earlier stage by the precast supplier. Does that plus the long-term benefits of using precast concrete start to outweigh the initial costs?

Steve Parker, manufacturing director at Buchan Concrete Solutions, adds: "There is little doubt that our biggest material competitors in this sector are those of steel and timber.

"There is a belief with architects and clients that precast concrete is not the answer. We have to get in early to convince them."

Enhancing performance

Education authority clients needing to be convinced of using precast concrete seems strange – the Government has set targets that all its new buildings must reach the 'Excellent' standard under the BRE's Environmental Assessment Method, BREEAM.

> **"Architects and clients believe precast concrete is not the answer. We have to convince them"**
> STEVE PARKER, BUCHAN CONCRETE SOLUTIONS

The use of recycled aggregates, low wastage during production, high quality manufacture, local employment and reduced delivery mileage are all plus points.

Not least, its inherent thermal mass – the ability to act as a heat store, absorbing heat from the sun during the day and releasing it during the cooler evening – makes the specification of structural precast concrete a solution to achieving BREEAM excellence.

"By using precast sandwich panels you are effectively

Elementary precast use: Medlock Primary School, Manchester, a Buchan Concrete Solutions project

Further advantages: New sports Hall, De ferrers Technology College, Burton-upon-Trent

building yourself a great big storage heater," says Mr Parker, "and studies have shown that children perform better when the classroom temperature is more consistent."

The outstanding acoustic performance that precast concrete buildings possess is another beneficial factor for school construction.

Use of precast is hamstrung a little by the notion that it is inflexible and cannot accommodate potential amends to structure, a theory dismissed by Mr Taylor.

"If we are involved early enough then the requirements for future changes are easier to accommodate," he says. "New schools built from precast can be reasonably easily modified, it's simple enough to cut via a precast member."

But cutting through the structure would be a last resort. To really future-proof buildings, these long-term requirements should be discussed at the earliest point possible during the design stage.

Model sectors

There are other key areas where structural precast concrete systems have made significant inroads during recent years: hotel building, the custodial sector, care homes and the residential market.

With housebuilding set to be in the doldrums for a couple of years, the education sector is one where precasters are looking to gain as much market share as possible.

It helps that main contractors have become a little more relaxed about using precast systems as their use becomes more commonplace on building sites across the country.

The experience of using these systems should filter through to their increased specification for school building.

"I think main contractors are more familiar with the use of precast and we are seeing that they understand the advantages much more now," continues Mr Taylor. "With precast, it is easy to get the building up very quickly indeed, that is important when working close to live schools."

> **"There are not too many primary school designs that can't be built using precast concrete"**
> JULIAN TAYLOR, HANSON STRUCTHERM

That speedy delivery of classrooms is still seen as the essential driver to a project. And it is why some education sector clients still call for the use of the outdated prefabricated portable classroom inched into position on a spare section of school playground.

But the last word should come from the true client, in this case it's those who use the classrooms every day, the teachers and pupils. Mr Parker is quick to champion their feedback.

"Teachers love it, as do the children," he says. "They like the fact that they can be heard easily and not drowned out by noise from adjoining classrooms and the constant temperature encourages high attention levels.

"Our best sales representatives are head teachers."

With over **27,500** precast rooms to our name, we're the **number 1** choice for accommodation on time and on budget

KEY WORKER HOUSING | SOCIAL HOUSING | SCHOOLS | HOSPITALS | PRISONS | CARE HOMES | HOTELS | APARTMENT COMPLEXES

With unsurpassed proven experience and capability, Bell & Webster offer a **total off-site solution for new build accommodation**, ensuring early room occupancy, anywhere in the UK:

- **Precast Rooms** – manufactured off-site and delivered on-site ready for final preparation and decoration
- **Wide Span Flooring** – the adaptable solution that will accommodate future flooring plan alterations within a building
- **Insulated Wall Panels** – clad in a variety of finishes; provide a strong, durable, energy efficient and fire resistant external walling solution

✓ EXCELLENT ACOUSTICS IN ACCORDANCE WITH PART E

✓ SUSTAINABLE CONSTRUCTION INCORPORATING THERMAL MASS

✓ EXCELLENT FIRE RESISTANCE

CPD MEMBER Construction CPD Certification Service

SPA STRUCTURAL PRECAST ASSOCIATION

Bell & Webster Concrete Limited
Alma Park Road, Grantham, Lincs. NG31 9SE
T (01476) 562277 F (01476) 562944
bellandwebster@eleco.com www.eleco.com/bellandwebster

bell&webster
an Eleco plc company

Directory

1 ABM Precon
Ollerton Road, Tuxford, Newark, NG22 0PQ
T: 01777 872233
abmeurope.com

2 Acheson & Glover Precast
Precast Head Office, Tullyvannon, BT70 2HW
T: 02885 568441
acheson-glover.com

3 ACP (Concrete)
Risehow Industrial Estate, Flimby, Maryport, CA15 8PD
T: 01900 814659
acpconcrete.co.uk

4 Aggregate Industries UK
Bardon Hall, Copt Oak Road, Markfield, Leicestershire, LE67 9PJ
T: 01530 816600
aggregate.com

5 Barcon Precast
Unit 12A, Horwich Loco Industrial Estate, Horwich, Bolton, BL6 5UE
T: 01204 690088
barconprecast.co.uk

6 Bell & Webster Concrete
Alma Park Road, Grantham, NG31 9SE
T: 01476 562277
eleco.com
bellandwebster.co.uk

7 Brett Landscaping & Building Products
Salt Lane, Rochester, ME3 7SZ
T: 01634 222188
brett.co.uk

8 Buchan Concrete Solutions
Kings Lane, Byley, Middlewich, CW10 9NB
T: 01606 843500
buchanconcrete.com

9 Carter Concrete
Britons Lane, Beeston Regis, Sherringham, NR26 8TP
T: 01263 823434
carter-concrete.co.uk

10 Collier & Henry Concrete (Floors)
Unit 2, Mellors Road, Trafford Park, M17 1PB
T: 0161 872 8410
chcfloors.com

11 Coltman Precast Concrete
London Road, Canwell, Sutton Coldfield, B75 5SX
T: 01543 480482
coltman.co.uk

12 Cornish Concrete Products
Point Mills, Bissoe, Truro, TR4 8QZ
T: 01872 864808
cornishconcrete.co.uk

13 CPM Group
Mells Road, Mells, Frome, BA11 3PD
T: 0117 981 2791
cpm-group.com

14 Creagh Concrete Products
152 Great North Road, St Neots, PE19 8EJ
T: 02879 650500
creaghconcrete.com

15 Decomo UK
180-186 Kings Cross Road London, WC1X 9DE
T: 020 7689 8058
decomo.be

16 Ebor Concretes
P.O. Box 4, Ure Bank, Ripon, HG4 1JE
T: 01765 604351
eborconcrete.co.uk

17 Evans Concrete Products
Pease Hill Road, Ripley, DE5 3HZ
T: 01773 748026
evansconcreteproducts.co.uk

18 Flynn Concrete Products UK
Tilley Lane, Windmill Hill, Hertsmonceux, BN27 4UU
T: 01323 832334
flynnconcreteproducts.ie

19 Forticrete
Bridle Way, Bootle, L30 4UA
T: 0151 521 3545
forticrete.co.uk

20 Foxon Bros. (Concrete Products)
Coventry Road, Broughton Astley, Leicester, LE9 6QD
T: 01455 282287
F: 01455 285712

21 FP McCann
Knockloughrim Quarry, 3 Drummand Road, Magherafelt, BT45 8QA
T: 02879 642558
fpmccann.co.uk

22 Glandel
Beacon Hill Lane, Off Wareham Rd, Corfe Mullen, Wimbourne, BH21 3RX
T: 01202 697282
glandel.co.uk

23 H+H UK
Celcon House, Ightham, Sevenoaks, TN15 9HZ
T: 01732 886444
hhcelcon.co.uk

24 Hanson Building Products
Hanson House, 14 Castle Hill, Maidenhead, Berkshire, SL6 4JJ
T: 01628 774100
heidelbergcement.com/hanson

25 Kit Kaboodle
Unit 5, Print Village, 58 Chadwick Road, London, SE15 4PU
T: 020 7639 0323
kitkaboodleconcrete.co.uk

26 Lakeland Concrete Products
Lakeland Pavers, North Lakes Industrial Park, Flusco, Penrith, Cumbria, CA11 0JB
T: 01768 483617
lakelandconcrete.co.uk

27 Litecast
Pool Road, Nuneaton, CV10 9AE
T: 02476 356161
litecast.co.uk

28 Longley Concrete Floors
Ravensthorpe Road, Thornhill Lees, Dewsbury, WF12 9EF
T: 01924 464283
longley.uk.com

29 Malling Products
Fiddlers Reach, Wouldham Road, Grays, RM20 4YB
T: 01375 486300
laingorourke.com

30 Marley Eternit
Station Road, Coleshill, B46 1HP
T: 01675 468400
marleyeternit.co.uk

31 Marshalls
Landscape House, Premier Way, Elland, HX5 9HT
T: 01422 312000
marshalls.co.uk

32 Milbury Systems
The Long Barn, Tickenham Bristol, BS21 6RY
T: 01275 857799
milbury.com

33 Milton Precast
Milton Regis, Sittingbourne, ME10 2QF
T: 01795 425191
miltonprecast.com

34 Monier
Sussex Manor Business Park, Gatwick Road, Crawley, West Sussex, RH10 9NZ
T: 01293 618418
monier.co.uk

35 North West Pre Cast
Holmfield Works, Garstang Road, Preston, PR3 6AN
T: 01253 790444
nwprecast.com

36 Robeslee Concrete
Southbank Road, Kirkintilloch, Glasgow, G66 1UA
T: 0141 775 2677
robeslee.co.uk

37 Roger Bullivant
Walton Road, Drakelow, Burton on Trent, DE15 9UA
T: 01283 511115
roger-bullivant.co.uk

38 Sandtoft Roof Tiles
Belton Road, Sandtoft, Doncaster, DN8 5SY
T: 01427 871200
sandtoft.com

39 SCC
Kenwood Road, Off Station Road, Stockport, SK5 6PH
T: 0161 432 7700
scc.co.uk

40 SLP Precast
Hamilton House, Battery Green Road, Lowestoft, NR32 1DE
T: 01502 587322
slp-eng.com

41 Stanton Bonna Concrete
Littlewell Lane, Stanton by Dale, Ilkeston, DE7 4QW
T: 01159 441448
stanton-bonna.co.uk

42 Tarmac Building Products
Millfields Road, Ettingshall, Wolverhampton, WV4 6JP
T: 0800 121 8218
tarmac.co.uk

43 Techrete
Feldspar Close, Warren Park Way, Enderby, LE19 4SD
T: 0116 286 5965
techrete.com

44 The Marble Mosaic Company
Winterstoke Road, Weston-super-Mare, BS23 3YE
T: 01934 419941
marble-mosaic.co.uk

45 ThermoneX UK
Delcon House, 65 Manchester Road, Bolton, BL2 1ES
T: 01204 559551
thermonex.co.uk

46 Thorp Precast
Apedale Road, Chesterton, Newcastle-under-Lyme, ST5 6BN
T: 01782 561155
thorpprecast.co.uk

47 Townscape Products
Fulwood Road South, Sutton in Ashfield, NG17 7JZ
T: 01623 513355
townscape24.com

48 Trent Concrete
Private Road No 3, Colwick Industrial Estate, Colwick, NG4 2BG
T: 0115 987 9747
trentconcrete.co.uk

	COMPANY																							
PRODUCTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
FOUNDATION UNITS & PILES			■	■					■								■						■	
RETAINING, REVETMENT & CRIB WALLS	■	■	■	■		■		■	■			■	■	■			■		■		■			
SEA & RIVER DEFENCE UNITS	■		■	■					■			■		■			■	■						
PIPES		■						■					■								■			
TUNNEL LININGS								■																
BOX CULVERTS		■	■		■			■				■									■			■
MANHOLES & INSPECTION CHAMBERS		■		■	■			■					■					■			■			
WATER TREATMENT & STORAGE TANKS	■		■	■									■	■			■				■			■
ROAD SURFACE DRAINAGE		■		■			■		■				■								■			■
KERBS		■		■			■																	■
FLAGS		■		■			■																	
BLOCK PAVING		■		■			■																	■
DECORATIVE PAVING		■		■			■										■			■				■
VEHICLE SAFETY BARRIERS	■	■		■		■	■							■										
LIGHTING COLUMNS & TRANSMISSION POLES				■																				
STREET FURNITURE & BOLLARDS				■												■	■							
BRIDGE BEAMS & GANTRIES	■	■		■																				
RAILWAY SLEEPERS & UNITS	■			■																				
WALLING BLOCKS, INNER LEAF & PARTITION		■		■										■					■				■	■
WALLING BLOCKS, OUTER LEAF		■		■					■					■			■		■				■	■
CONCRETE BRICKS		■		■																				
ARCHITECTURAL DRESSINGS		■		■								■			■		■		■			■		
CAST STONE ARCHITECTURAL UNITS		■		■	■							■			■		■		■			■		
LINTELS SILLS & COPINGS		■	■	■	■			■	■					■			■		■	■		■		
BEAM & BLOCK FLOORS		■	■	■				■	■	■		■		■					■				■	■
HOLLOWCORE FLOORS		■	■	■				■	■		■	■		■				■					■	■
COMPOSITE & DOUBLE TEE FLOORS		■		■		■			■					■										■
STAIRCASES & STAIR UNITS		■	■	■	■			■	■	■	■	■		■		■	■	■						■
BASEMENT UNITS			■	■								■		■					■					■
ROOF TILES				■															■					■
CLADDING & STRUCTURAL WALL UNITS		■	■	■	■	■		■	■			■		■	■	■	■							■
BEAMS & COLUMNS	■	■	■	■	■			■	■		■	■		■	■	■	■	■						■
FRAMES		■		■								■		■		■								
FLAT PACK SYSTEMS				■		■		■																■
MULTI-STOREY CAR PARKS	■			■		■								■		■		■						
GRANDSTANDS & TERRACING		■	■	■	■	■		■	■		■	■		■		■	■	■						■
SPECIALISED BUILDING SYSTEMS	■		■	■				■								■	■							■
AGRICULTURAL PRODUCTS		■	■			■			■					■										
FENCING		■																		■	■			
DUCTS, CONDUITS & MARKERS				■																	■			
GARDEN PRODUCTS				■			■													■	■			
ARCH, PORTAL & BOX STRUCTURES	■			■															■					
DOCK LEVELLER PITS			■	■				■				■				■								
PODS				■				■																
CHIMNEY SYSTEMS		■		■																				■
PACKED PRODUCTS				■																				■
REINFORCED AIRCRETE FLOORS				■																			■	
FOUNDATION BLOCKS				■													■						■	
GROUND BEAMS		■	■	■	■			■			■	■				■	■	■						

1 ABM PRECAST SOLUTIONS
2 ACHESON & GLOVER PRECAST
3 ACP (CONCRETE)
4 AGGREGATE INDUSTRIES (UK)
5 BARCON PRECAST
6 BELL & WEBSTER CONCRETE
7 BRETT LANDSCAPING & BULDING PRODUCTS
8 BUCHAN CONCRETE SOLUTIONS
9 CARTER CONCRETE
10 COLLIER & HENRY CONCRETE (FLOORS)
11 COLTMAN PRECAST CONCRETE
12 CORNISH CONCRETE PRODUCTS
13 CPM GROUP
14 CREAGH CONCRETE PRODUCTS
15 DECOMO UK
16 EBOR CONCRETES
17 EVANS CONCRETE PRODUCTS
18 FLYNN CONCRETE PRODUCTS UK
19 FORTICRETE
20 FOXON BROS. (CONCRETE PRODUCTS)
21 FP MCCANN
22 GLANDEL
23 H+H UK
24 HANSON BUILDING PRODUCTS

COMPANY																							PRODUCTS
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
												■			■		■			■				FOUNDATION UNITS & PILES
			■				■	■				■		■	■		■			■	■			RETAINING, REVETMENT & CRIB WALLS
			■					■							■		■			■	■			SEA & RIVER DEFENCE UNITS
																■								PIPES
												■					■							TUNNEL LININGS
								■				■			■		■			■				BOX CULVERTS
						■		■				■				■	■					■		MANHOLES & INSPECTION CHAMBERS
			■				■	■									■			■				WATER TREATMENT & STORAGE TANKS
						■		■								■	■							ROAD SURFACE DRAINAGE
	■					■																		KERBS
						■																■		FLAGS
■	■					■																		BLOCK PAVING
■						■																■		DECORATIVE PAVING
						■		■							■	■	■							VEHICLE SAFETY BARRIERS
						■											■							LIGHTING COLUMNS & TRANSMISSION POLES
■						■		■		■												■	■	STREET FURNITURE & BOLLARDS
															■		■			■				BRIDGE BEAMS & GANTRIES
																■	■							RAILWAY SLEEPERS & UNITS
■																	■			■				WALLING BLOCKS, INNER LEAF & PARTITION
						■											■			■				WALLING BLOCKS, OUTER LEAF
	■																							CONCRETE BRICKS
■				■						■				■				■	■		■		■	ARCHITECTURAL DRESSINGS
■										■	■			■				■	■		■		■	CAST STONE ARCHITECTURAL UNITS
										■	■	■		■				■	■				■	LINTELS SILLS & COPINGS
		■	■								■	■					■							BEAM & BLOCK FLOORS
		■	■									■					■							HOLLOWCORE FLOORS
														■			■							COMPOSITE & DOUBLE TEE FLOORS
										■		■		■	■		■			■				STAIRCASES & STAIR UNITS
							■					■			■		■			■				BASEMENT UNITS
					■				■				■											ROOF TILES
					■		■	■		■		■		■	■			■	■	■	■		■	CLADDING & STRUCTURAL WALL UNITS
										■		■		■	■		■	■	■	■	■		■	BEAMS & COLUMNS
												■		■	■		■				■		■	FRAMES
														■										FLAT PACK SYSTEMS
							■							■	■		■		■		■		■	MULTI-STOREY CAR PARKS
										■		■			■		■		■		■		■	GRANDSTANDS & TERRACING
														■	■		■			■				SPECIALISED BUILDING SYSTEMS
			■		■		■															■		AGRICULTURAL PRODUCTS
																						■		FENCING
										■						■								DUCTS, CONDUITS & MARKERS
■						■				■							■							GARDEN PRODUCTS
				■											■									ARCH, PORTAL & BOX STRUCTURES
												■								■				DOCK LEVELLER PITS
												■												PODS
																								CHIMNEY SYSTEMS
																	■							PACKED PRODUCTS
																								REINFORCED AIRCRETE FLOORS
																	■			■				FOUNDATION BLOCKS
												■					■			■				GROUND BEAMS

25 KIT KABOODLE
26 LAKELAND CONCRETE PRODUCTS
27 LITECAST
28 LONGLEY CONCRETE FLOORS
29 MALLING PRODUCTS
30 MARLEY ETERNIT
31 MARSHALLS
32 MILBURY SYSTEMS
33 MILTON PRECAST
34 MONIER
35 NORTH WEST PRE CAST
36 ROBESLEE CONCRETE COMPANY
37 ROGER BULLIVANT
38 SANDTOFT ROOF TILES
39 SCC
40 SLP PRECAST
41 STANTON BONNA CONCRETE
42 TARMAC BUILDING PRODUCTS
43 TECHRETE
44 THE MARBLE MOSAIC COMPANY
45 THERMONEX UK
46 THORP PRECAST
47 TOWNSCAPE PRODUCTS
48 TRENT CONCRETE

ADVANTAGE PRECAST
T: 01723 871432
dysonconsultingengineer.co.uk

AGGREGATE INDUSTRIES PACKED PRODUCTS
T: 01530 510066
aggregate-uk.com

AINSCOUGH CRANE HIRE
T: 01257 473423
ainscough.co.uk

ARCELORMITTAL STEEL KENT WIRE
T: 01634 830964
kwil.co.uk

BASF CONSTRUCTION CHEMICALS
T: 0161 794 7411
basf-cc.co.uk

BERESFORD FLOORING
T: 01335 345111
beresfordflooring.co.uk

BESSER
T: 01892 617050
besser.com

BETON FORM
T: 01233 662277
betonform.co.uk

BRC SPECIAL PRODUCTS
T: 01785 222288
brc-special-products.co.uk

BRE CENTRE IN INNOVATION CONSTRUCTION MATERIALS
T: 01225 388388
bath.ac.uk

BURLEYWOOD
T: 01332 553111
burleywood.co.uk

CANADIAN PRECAST PRESTRESSED CONCRETE INSTITUTE
T: (613) 232 2619
cpci.ca

CARRINGTON WIRE
T: 01422 372372
carringtonwire.com

CASTLE CEMENT
T: 08456 001 616
heidelbergcement.com

CASWICK
T: 01427 872017
caswick.com

CATHAY PIGMENTS (UK)
T: 01332 371759
cathaypigments.com

CHOMARAT COMPOSITES
T: +33 (0)4 75 29 81 00
chomarat.com

CHRISTEYNS UK
T: 01274 393286
christeyns.co.uk

CHRYSO UK
T: 01327 707976
chryso.com

CIVIL AND MARINE
T: 01708 864813
heidelbergcement.com

COMPOSITE
T: 02380 645700
composite.co.uk

CONSTRUCTION SYSTEMS MARKETING UK
T: 01246 853528
csm-uk.co.uk

CONSTRUX
T: +32 8932 8855
construx.be

CPI WORLDWIDE
T: +49 2236 962 390
cpi-worldwide.com

DAVID BALL GROUP
T: 01954 780687
davidballgroup.co.uk

DONCASTER COLLEGE
T: 01302 553553
don.ac.uk

DUNDEE COLLEGE
T: 01382 834834
dundeecoll.ac.uk

EBAWE ANLAGENTECHNIK
T: +49 3423 6650
ebawe.de

EKC SYSTEMS
T: 01924 411604
concrete.elkem.com

ELKEM MATERIALS
T: 0800 068 9010
materials.elkem.com

FOSROC UK
T: 01827 262222
fosroc.com

GRACE CONSTRUCTION PRODUCTS
T: 01925 824824
uk.graceconstruction.com

GRACELAND FIXING
T: 01480 471696

GRS BAGGING
T: 0870 111 80 11
grsbagging.co.uk

HALFEN-DEHA
T: 01582 470300
halfen.co.uk

HANSON PACKED PRODUCTS
T: 01628 774100
hanson.biz

HAARUP UK
T: 01386 834016
haarup.co.uk

HEWDEN CRANE HIRE
T: 0845 60 70 111
hewden.co.uk

HICKMAN & LOVE (TIPTON)
T: 0121 557 2191
hickmanandlove.co.uk

HOBSON FORD ASSOCIATES
T: 01449 760728
hobsonford.co.uk

ICI PAINTS
T: 01753 550000
ici.com

INDITHERM
T: 01709 761000
inditherm.co.uk

J & P BUILDING SYSTEMS
T: 01844 215200
ww.jandpbuildingsystems.com

K LIFT
T: 0800 389 5646
k-lift.co.uk

KINGSTON UNIVERSITY
T: 020 8547 7809
kingston.ac.uk/cism

KOBRA MOULDS
T: +31 113 562 460
kobragroup.com

KUKA AUTOMATION & ROBOTICS
T: 0121 585 0800
kuka-robotics.com

KVM INTERNATIONAL
T: 01332 825800
kvm.dk

LAFARGE CEMENT UK
T: 0845 812 6400
lafargecement.co.uk

LAFARGE AGGREGATES
T: 0844 561 0037
lafarge-aggregates.co.uk

LANXESS
T: 01283 714200
lanxess.co.uk

LEADING EDGE MANAGEMENT
T: 0118 979 7800
lead-edge.co.uk

LOUGHBOROUGH UNIVERSITY
T: 01509 263171
lboro.ac.uk

LYTAG
T: 01904 727922
lytag.net

MACCAFERRI
T: 01865 770555
maccaferri.co.uk

NATIONAL PRECAST CONCRETE ASSOCIATION – AUSTRALIA
T: +61 8 8178 0255
nationalprecast.com.au

NATIONAL PRECAST CONCRETE ASSOCIATION – USA
T: 317 571 9500
precast.org

NEILSOFT
T: 01582 455559
neilsoft.com

PCE
T: 01827 301020
pce.co.uk

PEIKKO UK
T: 01325 318619
peikko.co.uk

PREMIER ERECTION SERVICES
T: 01827 254770
pes.uk.com

PRINZING GMBH
T: +49 73 44 172 0
prinzing-gmbh.com

PROBST HANDLING & LAYING SYSTEMS
T: 01939 235325
probst-gmbh.de

PUK
T: 01789 206800
pukservices.co.uk

QATAR PRECAST CO
T: +97 4 460 3772

RAMPF FORMEN
T: +49 7391 505 0
rampf.de

RESIBLOCK
T: 01268 273344
resiblock.com

ROCKWOOD PIGMENTS (UK)
T: 01782 794400
rockwoodspecialities.com

SIKA
T: 01707 394444
sika.co.uk

SIG CONSTRUCTION ACCESSORIES
T: 0117 301 3610
sigscp.co.uk

SKAKO A/S
T: +45 63 61 61 00
skako.dk

SKANSKA CONSTRUCTION
T: 01483 758820
skanska.co.uk

SPEEDWELL REINFORCEMENT
T: 0114 246 7551
speedwellreinforcement.co.uk

SPRINGVALE EPS
T: 0191 217 1144
springvale.com

TARMAC PACKED PRODUCTS
T: 0800 1218 218
tarmac.co.uk/tarmac

TDG
T: 0800 0288 834
tdg.eu.com

TEKLA UK
T: 0113 307 1200
tekla.com

TRELLEBORG FORSHEDA PIPE SEALS UK
T: 01629 813835
trelleborg.com/pipe-seals

UK CERTIFICATION AUTHORITY FOR REINFORCING STEELS
T: 01732 450000
ukcares.co.uk

UNIVERSITY OF BATH
T: 01225 388388
bath.ac.uk

UNIVERSITY OF DUNDEE
T: 01382 383000
dundee.ac.uk

(THE) UNIVERSITY OF NOTTINGHAM
T: 0115 951 5151
nottingham.ac.uk

UNIVERSITY OF PAISLEY
T: 0141 848 3000
paisley.ac.uk

UNIVERSITY OF SHEFFIELD
T: 0114 222 2000
shef.ac.uk

UNIVERSITY OF SURREY
T: 01483 300800
surrey.ac.uk

UNIVERSITY OF TEESSIDE
T: 01642 218121
tees.ac.uk

UNIVERSITY OF THE WEST OF ENGLAND
T: 0117 965 6261
uwe.ac.uk

VAN ELLE
T: 0845 630 8993
van-elle.co.uk

WALDECK ASSOCIATES
T: 01529 415909
waldeck-associates.com

WINN & COALES (DENSO)
T: 020 8670 7511
denso.net

Retaining costs

Forticrete wastes no time in applying its Keystone system to a high maintenance incineration facility in Slough

A modular retaining wall system has created a simple and economic solution for Grundon Waste Management. Forticrete's Keystone system is providing access to the first floor offloading level of the new £100 million waste incineration facility at Colnbrook, Slough.

The Keystone retaining wall system is aesthetically appealing, easy-to-install and economical, replacing cast in-situ retaining walls.

In this instance, the Keystone Compac units were used to construct an access ramp to the facility, which deals with over 400,000 tonnes of waste a year.

Keystone incorporates a high-strength fixing system to securely lock the components in place. At the centre of the system are pultruded pins that have a high shear strength and will last the life of the wall.

The combination of Keystone units, positive pin connection and soil reinforcing geogrids enables retaining walls to be built up to 12 m. The Keystone system also carries a BBA certificate for roads and bridges.

Keystone's inner strength is matched by its aesthetic capabilities: combining classic lines, graceful curves, shadows and textures.

On this project, it was important that the access ramp walls complemented the facade of the main incinerator building – and this is where Keystone stepped up with the Splitface finish.

In addition, the site had restricted access as it is close to a railway line and the incinerator building so there was no room for shuttering or craned-in systems. Keystone proved the most economical solution for contractor Edmund Nuttall.

"Keystone's inner strength is matched by its aesthetic capabilities"

It is built from the top of a wall within its own footprint giving a construction speed of up to 40 sq m of finished wall per day – there are no delays from the completion of the face of the wall to the subsequent backfilling.

Pioneering success

Structherm's rapid, flexible method exceeds Building Regulations standard at Park Central

Structherm has worked in partnership with Crest Nicholson and Optima Community Association to build five apartment blocks at Park Central, a large regeneration site in Birmingham. It applied insulated render to a number of buildings, with more planned.

Optima Community Association has used Structherm Fastbuild on three previous projects close to the Park Central site.

The firm's development manager Dave Thompson says: "From the start, Optima tried to follow the Egan principles of partnering, recycling materials from dismantled tower blocks, trialing modern methods of construction and measuring costs against traditional methods.

"In the modern methods trials we encouraged Crest Nicholson to use Structherm Fastbuild to construct the apartment blocks. We're not afraid to be pioneers."

Structherm Fastbuild is a rapid, flexible building system that consists of prefabricated structural concrete panels and a method of fixing, using special brackets and channels. There are endless design options and it is suitable for many areas of application, accommodating most buildings up to seven storeys.

There are also many different package options available with the system, from a 'wall only' package through to a full structural shell including lift shafts, stairs, floors, roofs and balconies.

The Fastbuild system provides benefits that include savings on programme – water tightness is achieved earlier allowing internal fit-out to begin sooner than anticipated.

And overall construction time can be reduced by an average of 40 per cent, which leads to savings in preliminaries and overheads.

The overall Ecohomes rating of the Park Central blocks is 'Good'. All of the blocks built using Fastbuild have achieved considerably higher acoustic results than the Building Regulations standard.

"Overall construction time can be reduced by an average of 40 per cent"

Working Model of the DREAM Sculpture

It's not just about...

THE GREY STUFF

PROJECT DREAM WILL BE A GATEWAY LANDMARK FOR NORTH WEST ENGLAND, SITED ON THE FORMER SUTTON MANOR COLLIERY IN ST. HELENS. DESIGNED BY INTERNATIONALLY RENOWNED DESIGNER, JAUME PLENSA, THE 22M HIGH SCULPTURE WILL BE CONSTRUCTED BY EVANS IN BESPOKE PRECAST CONCRETE. MATERIALS COMPRISING; 500 TONNES OF BESPOKE BRILLIANT WHITE CONCRETE – MIX DESIGN CONSISTS OF SPANISH DOLOMITE AGGREGATE WITH TITANIUM DIOXIDE PIGMENT AND STRUX 90/40 SYNTHETIC FIBRES, 53No INDIVIDUAL ELEMENTS WEIGHING APPROX 9 TONNES WITH THE SURROUNDING PLINTH BEING CONSTRUCTED IN A FURTHER 36No BESPOKE UNITS.

for us and our clients.

For more of **the bespoke stuff** visit...

www.evansconcreteproducts.co.uk

EVANS CONCRETE PRODUCTS LIMITED Pease Hill Road, Ripley, Derbyshire, DE5 3HZ
Tel +44 (0)1773 748026 **Fax** +44 (0)1773 570354 **Email** evans@evansconcreteproducts.co.uk
Web www.evansconcreteproducts.co.uk **Registered in England No.** 02517363

evans
BESPOKE PRECAST CONCRETE

High voltage

ThermoneX sends in the troops for unusual overground operation at East Midlands train station

A 120-tonne crane with slew restrictors was used by ThermoneX's team of ex-British Army Gurkha's to lift 26 bridge parapet units into position – over the line at East Midlands Parkway station.

The three-day operation happened during daylight hours under the watchful eye of Birse Civils and Network Rail.

Birse project manager Martin Black says: "As far as we know this is the first time such an operation has been undertaken over a live railway."

The bridge units, cast at ThermoneX's precast factory in Shropshire, formed part of the East Midlands Parkway station to serve East Midlands airport.

The contract is a departure from ThermoneX's usual work – building precast basements for new houses.

The Bolton-based company use a lightweight thermally insulated concrete to create living space underground. It has built hundreds of basements using X-Concrete which was developed in Sweden, but has the backing of a BRE certificate.

"We are trying to diversify our product range," says ThermoneX marketing director Michael Edwards.

"We can now offer a wide range of bespoke products to the construction market including lift shafts, flood defence systems, box culverts as well as more standard products such as stairs and retaining walls."

ThermoneX had an interesting year in 2008: building its biggest single project – an underground car park in Edinburgh; supplying and installing the first contract for Tiam – an innovative flood defence system at a Ministry of Defence site in Sheffield; setting up a production facility for box culverts and winning a contract to supply specialist flooring units for Bourne Parking.

"We are a small but flexible company offering design, supply and installation services," adds Mr Edwards. "We can often react quickly to a customer's challenge and our precast team are very flexible."

Echoing success

Trent Concrete's all white for Sunderland regeneration project

Mario Minchella Architects loved the curved white precast exterior of City Gate in Newcastle. So it specified the material for its £38 million new build, Echo 24, a high-quality apartment development in Sunderland.

But it wasn't just aesthetic beauty the firm wanted to achieve. Given the city centre location, it required speed of installation, acoustic insulation and durability – all traits of Trent Concrete's precast cladding.

Architect Mario Minchella says: "When we saw the product on City Gate we knew it would be right for Echo 24 because we needed a product that offered clean, crisp lines, good weathering performance and excellent acoustic properties to minimise traffic noise."

The result was a high quality finish that also simplified integration with other materials, such as curtain walling.

Trent Concrete managing director David Walker says: "It's wonderful to work on a job that has resulted from an architect's recognition of a previous project of ours.

"Not only is it a testament to precast concrete, but it gives us all a great sense of job satisfaction, too."

"It's wonderful to work on a job that has resulted from recognition of a previous project. It's a testament to precast concrete"
DAVID WALKER, TRENT CONCRETE

The £800,000 contract covered 2,200 sq m of acid-etched white, reconstructed stone cladding of 260 units. The variety of units fell into six main categories: under-window panels, spandrels incorporating balconies, curved spandrels, L-shaped spandrels, flat storey-height panels and curved storey-height panels.

Echo 24 has been a key improvement in the regeneration of Sunderland's river quarter. Dominating the city's skyline, Echo 24 comprises car parking, two commercial units and 179 luxury apartments over 11 floors.

Speed reading

Modern connection methods streamline library in Milton Keynes

The efficiency of precast concrete is influenced by the methods used to connect or support the individual elements. So, three of the most popular innovations were used for the frame, floors and stairs of the Jenny Lee Library in Milton Keynes, which houses the Computing, Maths and Institute of Educational Technology faculties.

Column shoes

Traditionally, precast columns used to have a steel base plate, incorporating starter bars and having holes for the holding down bolts. Frequently, the base plate is larger than the column section, causing problems with the mould.

At Jenny Lee, precast contractor Buchan used Pfeifer column shoes to fix the columns to their bases. The 'shoes' are effectively mini column bases, each one accepting a single holding-down bolt. With starter bars already attached, they weigh a fraction of a large base plate, making handling in the factory easier and safer.

The use of 'shoes' also allowed the slender columns to be cast without any obstructions within the mould.

Beam supports

Columns supporting beams can use a projecting billet or corbel as a seating. These, however, project beyond the line of the column, causing problems and increased costs in the casting process. They are also difficult to disguise visually in the finished state.

By using Norwegian beam/column connectors known as BSF, Buchan was able to produce slender columns with no outstands. It incorporated vertical 'letter boxes', which accepted the corresponding support blade in the ends of the beams, resulting in very clean lines.

Landing supports

Precast landings can be supported by a variety of methods. But most of these project below the landing and need to be visually disguised as well as fire protected.

The use of RVK slab supports, another Norwegian product, meant that the soffits of the landing were clear of any visible support. Being cast into the landing, and subsequently grouted up, the inserts were fully fire protected.

This support can also incorporate resilient material to minimise transmitted impact sound (stepsound).

Handed on a plate

H+H's new generation of products for the thin joint system means building with aircrete is now even faster

Multi Plates are large format aircrete components for commercial, industrial and housing markets, recently developed by H+H.

The 100 mm thick H+H Multi Plates come in a standard face size of 610 mm x 375 mm for optimised build speed. Each Multi Plate weighs less than 20 kg, which allows safe manual handling in accordance with HSE guidelines.

Manufactured to extremely tight dimensional tolerances, Multi Plates are supplied specifically for use with H+H UK's thin layer Celfix mortar. The accuracy of the units ensures that little or no levelling is required as Multi Plates are laid.

Additionally, the use of thin layer mortar and the bigger building component means that a high level of airtightness can be achieved. This helps to improve the energy performance of the building when used in external walls or provide enhanced acoustic insulation for separating walls.

Multi Plates can be used to build fire-resistant internal leaves of cavity external walls, separating and other internal walls in both load-bearing and non load-bearing situations.

They are a productivity-enhancing option offered as whole-wall solutions that can be priced to include installation by an approved contractor.

Combining superior build speed with the inherent advantages of aircrete, the Multi Plates' main qualities are:

- Excellent thermal and acoustic insulation
- Excellent fire, frost and sulphate resistance
- Strength and durability, yet lightweight for easy handling
- Thermal mass
- Environmental credentials – using up 80 per cent waste material in its manufacture, as well as providing Green Guide A+ rated construction solutions.

Paving the way

Brett's response to Government initiative guides rain off the block

As our urban footprint grows, the amount of garden land available to soak up rainwater reduces. As it stands, only five per cent of the rainwater which falls on urban land is absorbed naturally. This compares with 95 per cent on rural land.

The majority of rainwater in towns and cities is channelled into old and inadequate drainage systems. This isn't helped by the growing trend for hard surfacing of domestic gardens.

And, as more garden land is lost, the strain on the drainage system increases, adding to the risk of flooding.

To combat this, the Government has issued guidance on the permeable surfacing of front gardens, which relates to changes to the General Permitted Development Order.

This effectively cancels the right to pave over the front garden of a domestic property with any reasonable-sized area of impermeable surfacing material, without making allowances for controlling water runoff.

The guidance recognises that the combined effect of paving over many front gardens increases the risk of flooding, as most urban areas were not designed to cope with increased rainfall.

In addition, as the rainwater passes quickly into the drainage system and onto local waterways, it can carry pollutants such as oil and petrol.

From 1 October last year, the hard surfacing of more than 5 sq m of domestic front gardens is only a permitted development where the surface is permeable, or where water runoff is controlled within the property through the use of a soakaway or rain garden.

A soakaway is a 'hole' in, or adjacent to, a hard surface that allows water to filter down through the soil. A rain garden is a soakaway featuring vegetation.

Local Authority Planning permission is now required for the use of traditional materials, such as standard designs of block paving or tarmacadam.

The Brett Omega Flow permeable paving system is one solution. It works on the basis of a gap formed between the individual blocks that allows water to be channelled into the underlying porous strata for temporary storage, storm attenuation and subsequent dispersal to the ground or collection.

The Brett Infiltration System, consists of permeable paving laid on top of open graded aggregates.

However, while permeable paving or soakaways avoid allowing the water to enter into the drainage system, there may still be issues with the type of soil. A simple soil permeability test, which Brett's technical advice service offer, will reveal the suitability.

In symphony

AltusGroup casts a shadow on Philadelphian condominium with its thin, beautiful panels

The 31 storeys of Symphony House, a $125 million, 163-unit condominium in Philadelphia, feature CarbonCast Architectural Wall Panels that provide a traditional facade and, notably, a 50 per cent weight reduction of precast.

This reduction proved beneficial. The restrictive building site necessitated a tower crane to lift the 770 exterior panels into place, but as the CarbonCast panels weigh only 18.1 kg per sq ft, they were easily accommodated even at the more distant corners of the building.

> **"The thinness of the panels and reduction of the structure provided more interior floor space"**

In addition, the lightweight panels reduced load on the floor slab where they were mounted, and on the rest of the reinforced concrete structure.

Furthermore, the thinness of the panels and reduction of the structure provided more interior floor space and better apartment layouts.

As requested by the architect, the precast panels were fabricated with a red-pigmented, sandblasted finish for a brick-like appeal, but without the expense or limited colour range of actual brick.

The seven to 10-inch thick cladding panels enabled deep reveals, recessed planes and deep window recesses that help cast the shade and shadow on the facade.

The CarbonCast Architectural Cladding Panels were designed, manufactured and installed by AltusGroup. Its member company, Chomarat, provides C-GRID, a carbon fibre grid technology that enables CarbonCast to be lighter, stronger and more durable.

New spaces

Repeat business for Composite as another supermarket car park is completed

The new branch of Wm Morrison Supermarkets in Granton, Edinburgh has a precast concrete, single-deck car park as constructed by specialist contractor Composite.

The 82,500 sq ft supermarket is part of The ForthQuarter, one of Europe's most ambitious waterfront development projects.

Composite's 5,284 sq m clear span car park has 246 spaces on the ground floor and 199 on the suspended deck. As well as the main precast concrete frame, it has two stair flights supported on single columns centrally placed in the half landings, and framing to support a travelator.

In addition, 28 precast concrete 'scorpion-tail' columns, spanned by tensioned cables, feature around the perimeter. Some precast concrete spandrels have been clad with granite tiling.

This is the fourth car park the firm has built for the chain. Composite managing director Roy Nield-Dumper says: "We were delighted to have been asked to work with Wm Morrison Supermarkets again."

Behind bars

Buchan returns to Staffordshire prison for high strength extension works

Buchan's crosswall method of constructing multi-unit accommodation has been used extensively in prison build for the last decade.

The system, used for houseblocks, segregation units and associated buildings at over 20 different prison sites, has been implemented at HMP Dovegate, Staffordshire, an extension for Skanska.

The 260-cell, two-storey, four-winged K-shaped houseblock is an addition to the original 800-cell prison built by Buchan seven years ago.

The design was carried out in-house using Tekla for Precast, a Building Information Modelling system, specifically configured for cellular wall construction.

The 3D modelling allows the production of mould and reinforcement details, which are linked to the overall model allowing alterations to automatically change these details.

All walls are a minimum 150 mm thick, reinforced with two layers of mesh. Internal walls are cast vertically in steel battery moulds and following the minimal on-site finishing, are ready for decoration.

External walls are cast flat, the trowelled surface being that of the cavity face, while floor slabs are generally of solid, wet-cast construction with tight tolerances that do not require a screed.

The units are high strength, low water/cement ratio, low permeability concrete for which elevated temperature curing can be employed. And they are produced dry, which has the advantage of low shrinkage when installed on site.

The erection period lasted 19 weeks, when up to two crawler cranes and two mobile cranes were in operation at any one time erecting 1,758 precast units and roof steel. Buchan's input included the assembly of ground beams, roof steelwork and purlins.

The advantages of the system are many when compared with alternative construction methods, notably in-situ concrete.

Door frames, window grills, electric conduits and boxes are all cast within the concrete wall and floor units. The speed of construction allowed all follow-on trades to commence work almost simultaneously.

The product quality, robustness of structure and the obvious security benefits combined to produce a relatively maintenance-free extension with good fire resistance, acoustics and longevity.

Up the wall

Maccaferri groundworks component speeds up construction of wards at Bradford hospital

Main contractor HACS Construction put the finishing touches to a 4.5 m-high, 120 m-long MacWall VSF segmental retaining wall. It was built to create space for the £10 million fast-track, modular ward installation project at Bradford Royal Infirmary.

The Maccaferri wall forms a structural perimeter to the new building, allowing construction of the wards to be at the same level as existing buildings on the site.

MacWall VSF is an engineered, reinforced segmental block, retaining wall system comprising dry-laid concrete blocks in combination with Paragrid soil reinforcement geogrids.

Each course is located and connected using purpose-made nylon/fibreglass pins that ensure accurate alignment and setback every time a block is placed. This makes installation simpler and quicker than for traditional wall systems.

Geogrids are laid out behind the wall face at 400-600 mm vertical increments. These are sandwiched between the block courses and layers of compacted backfill to create a reinforced earth structure of immense strength and durability. No mortar or other wet trades are used.

The venture involved deep rock-excavation within a severely constrained site. Conditions meant that the wall had to be constructed as a combination structure of mass concrete backfill along with traditional geogrid installation, to accommodate service ducts and existing features to the rear of the wall.

The three-storey extension made space for an additional 56 beds.

More than you see

Precast cladding, flooring, structures and masonry are proving popular and even trading well through the economic downturn

Architectural Cladding Association

In the construction industry, the computer expression wysiwyg (what you see is what you get) can often be replaced by wygimtys (what you get is more than you see).

Certainly, this is true of today's architectural concrete cladding, where the surface attraction can hide a host of other qualities such as built-in insulation, energy saving, structural performance, recyclability and long life.

As a result, even in the face of a construction downturn, it has maintained or perhaps even grown its market share.

Recent innovations in production methods combined with significant investment in labour and plant resources mean that architectural precast concrete panels can be provided in an increasing range of finishes and facings, shapes and sizes.

Each work package done by members of the Architectural Cladding Association (ACA) typically includes the manufacture of bespoke precast concrete cladding panels and detailed design, delivery and fixing. So it is important to understand the role a precast specialist plays in a construction project.

While contractors and project managers concentrate on site activities, most of the precaster's work takes place off site. Hence the need for an adequate lead-time before work starts on site, particularly when considering design and detailing.

The latter fall into two distinct phases: external or contract – executed in conjunction with the architect, engineer and interfacing trades; and internal – as required for the production and installation of the precast units.

In the external phase, the design and drawings will include key elevations, general arrangements and builders' work information, plans, sections and large-scale details.

If this element of design is to proceed successfully, accurate and complete architectural/engineering detail must be available and interfacing trades are appointed concurrently. After completion of the external design and detailing, internal details are prepared.

Panels are erected on site by ACA member company teams trained in safe handling and fixing, often without the need for an external scaffold. They are delivered to a tight programme, allowing large areas of the frame to be rapidly enclosed to give an early start to weather-sensitive following trades. Window apertures within the panels can be framed, glazed and sealed before delivery.

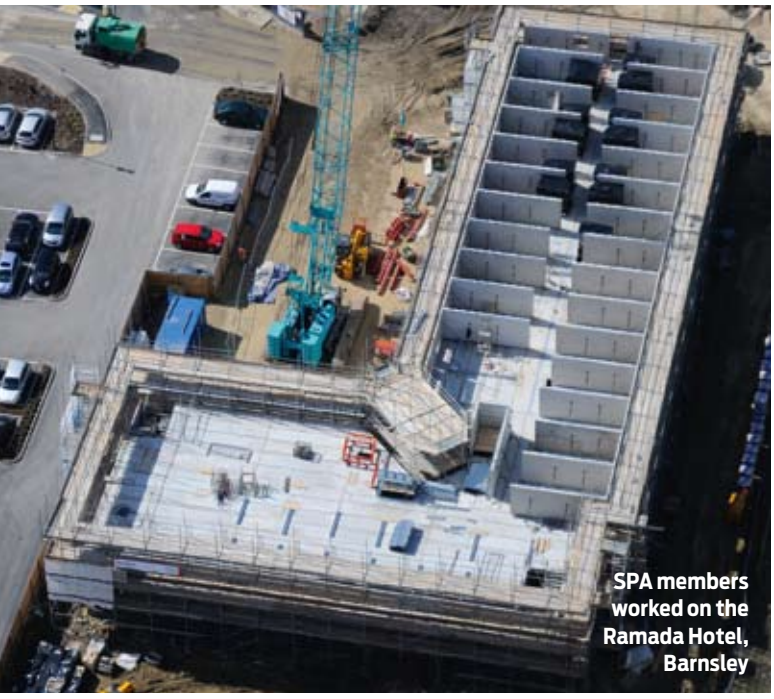
There are also financial advantages inherent in architectural precast concrete. Off-site prefabrication and increased on-site productivity, especially using the largest practicable units, give optimum value.

Similarly, with less dependence on site-based activities, construction cost is stabilised and construction time shortened, so reducing costs. Of course, all these advantages can be attained only by early involvement of the specialist precaster.

Precast concrete cladding can be expected to last considerably more that 60 years and generally with no need for maintenance. In addition, it is non-combustible and fire-resistant with built-in sound insulation properties

Dense concrete is also airtight and watertight, giving superior weathering performance and corrosion resistance. Insulation can readily be incorporated either as a lining to the internal face of a panel, or as a core between two concrete layers.

Moreover, the thermal mass of concrete serves to reduce peak heating and cooling loads.



SPA members worked on the Ramada Hotel, Barnsley

Structural Precast Association

Precast concrete is the most versatile of construction materials. It is delivered to site ready to be used, having been moulded in controlled factory conditions to virtually any form or shape.

The high quality that results, combined with the unique chameleon property of being able to take on a multitude of colours and surface textures, accounts for much of the surging interest in precast options.

Concrete will continue to grow in popularity and dominance. Among the many reasons are: faster erection time, higher quality, and the intrinsic lifetime energy reductions from concrete's thermal mass.

Techniques making use of precast concrete are being adopted for a whole range of projects. This comes at a time when Government statistics show that the average density of new homes has increased from 25 dwellings per hectare to 40 in eight years.

Inevitably, this higher density creates challenges such as noise transmission, and so concrete, which offers acoustic benefits, is increasingly becoming the construction material of choice.

Sustainability

At the same time, more and more emphasis is being placed on sustainability and the environment.

On 11 June last year, the Government and the Strategic Forum for Construction published Strategy for Sustainable Construction. This translates the

Bespoke concrete design at Barton Square, Manchester

priority areas from the earlier Securing the Future report into a series of targets and actions designed to enable the construction industry to meet the challenge of making both its own operations, and the built environment, more sustainable.

It is clear that the industry faces some tough challenges, but how is precast concrete positioned to play a key role in the improvements required?

The precast concrete sector recognised long ago that many of the principles that underpin sustainable consumption and production also make good business sense and are, therefore, already embedded into many of the sector's operations.

Member companies of the Structural Precast Association (SPA) are approaching the market in various ways. The common theme is to adopt modular construction wherever possible, to increase speed and keep down costs.

A good example is precast crosswall construction. By design, the method provides flat soffits with no intruding downstand beams and also solves the increasingly onerous acoustic requirements of the Building Regulations. Typically, programme gains over traditional and lightweight methods are 30–50 per cent.

Recent examples of work carried out by SPA members include:

Hope Hospital car park

Built for Salford Hospital Trust, this SCC design-build project provides parking for 1,136 vehicles on six levels on its Hope site.

Although the car park could be considered a basic design, the client was keen to produce a gateway building. This was achieved by the development of an original concept design and by using grey ship-lapped cladding on the service cores.

John Perryn Primary School

The two-storey £8.3 million John Perryn Primary School in Ealing, west London, replaces a Victorian school.

Main contractor Willmott Dixon opted for precast concrete because of its fire resistance, flexibility, high quality, and instant working platforms. Buchan Concrete Solutions developed the bespoke design.

From the start, sustainability was key. The most outstanding feature being that 90 per cent of the demolished school building was recycled or used as piling mat material.

Ramada Hotel, Barnsley

The 117-bed Ramada Hotel in Barnsley was constructed in just over 12 weeks, using Structherm's Fastbuild precast concrete system, with follow-on trades able to start their work as early as week nine.

The building consists of directly decorated party walls and pre-formed window panels, with solid concrete double-spanning floor beams over two rooms to aid speed of installation. The precast concrete wall panels were designed as deep-beam walls to allow load transfer to the outer edges of the walls.

"Over 20 years, precast concrete flooring has been steadily adopted as the material of choice"

Precast Flooring Federation

With the introduction of some industry-wide tools, governmental measures, targets, and national standards addressing sustainability, the entire construction industry is facing considerable pressure to take on the challenge of sustainable development.

The precast flooring sector realised the scale of this at a very early stage and has been successful in addressing a number of means to tackle different sustainability measures and implement a range of product/process based solutions.

Over the past 20 years, precast concrete flooring has steadily been adopted as the material of choice, but with the construction industry as a whole contending with a wider downturn, the Precast Flooring Federation is putting a lot of effort into promoting its benefits.

The vehicle for this programme is a series of technical seminars. The first of these, at Wembley Stadium in October 2008 and Birmingham City FC in November, attracted considerable interest. Further seminars are being planned, the likely venues being Newcastle, Manchester, Glasgow and Cardiff during late spring and early summer, for details visit: www.precastfloors.info/cpdseminars.

Each event will present a series of CPD-accredited technical papers looking at the range of issues affecting designers today.

Several of the technical papers present information on innovatory products. Cobiax flooring, developed by Hanson Building Products, is one of these.

The system overcomes the traditional issues associated with in-situ concrete construction, resulting in a more manageable, lighter structure, with less risk, higher quality and a flat slab.

Cobiaxdeck buildings have the same structural integrity as full in-situ construction, but much of the work is removed to an off-site, factory controlled environment with just-in-time delivery to site.

When looking at the long-term benefits, for example over a 30-year period, the Cobiaxdeck ▶

SPA members worked on the John Perryn Primary School in west London

approach arguably becomes the solution of choice.

Termodeck is another option. A building with an exposed concrete floor has a high thermal mass and is over a large surface area close to the occupants, so it can significantly influence the comfort levels for the users of the building. Passively, the concrete can absorb heat or radiate 'coolth' and will work to stabilise comfortable temperatures.

The passive benefits of the high thermal mass properties of concrete can be significantly increased by the clever technique of passing the supply air through the thermal mass.

The supply air passes through the holes in the hollowcore (which are primarily there to save concrete) at low velocities, allowing prolonged contact between the air and the slabs. In turn, this enables a far greater area of concrete to behave as a heat-exchange medium.

Behaviour in fire is also highlighted. In two large-scale fire tests on a hollowcore floor plate, supported on protected steelwork, the plate performed very well. The test results presented reinforce the real world experience that hollowcore floor slabs have good overall inherent fire resistance.

■ www.precastfloors.info/cpdseminars

Modern Masonry Alliance

These are unprecedented times for all those involved in housebuilding, construction material production and builders' merchants.

The housebuilding sector is in near collapse and many social housing providers have pulled up stumps, preferring the relative safety of refurbishing existing stock.

With unemployment set to rise steeply and the worldwide banking system still relatively unstable, the outlook could be described as bleak for our hard pressed industry.

Companies of all sizes are focused on survival, which means cutting costs, improving agility and managing cash flow, while looking for any opportunities.

Some rays of hope are emerging based on the Government's intention to bring forward social housing projects and to insist that the mortgage providers release funds in return for large Government injections of borrowed cash.

Faced with these challenges we need to work together as an industry to make sure we act wisely and support each other.

In the past, social housing providers have been forced to use imported timber frame kits at the expense of UK-produced brick and block construction – as a result of modern methods of construction targets of 106 affordable housing projects. This is despite the fact that it added cost to the project and no doubt caused the loss of UK jobs.

Now English Partnerships has scrapped these ill-considered targets, leaving housebuilders free to take advantage of a 15 per cent cost saving with increased flexibility enabling them to support the local economy.

For those in the private sector, the challenges are immense, with falling land values and a near stagnant market, cash flow is the key challenge.

Masonry not only offers cost savings when compared to timber frame, but it also provides complete flexibility.

Many housebuilders are completing up to slab stage and then waiting until they have a confirmed buyer in place. The housebuilder can then obtain bricks and blocks and build swiftly to affect an early handover of a completed home.

Add to this the advantages of using a tried and tested product that consumers want to buy and you have the ingredients for success in a buyer's market.

You will also be doing your bit to ensure we maintain the UK building materials manufacturing industry, which is essential to our future.

Hope for new homes if Government intentions are followed through

"We need to work together as an industry to make sure we act wisely and support each other"

GET THE BUSINESS EDGE

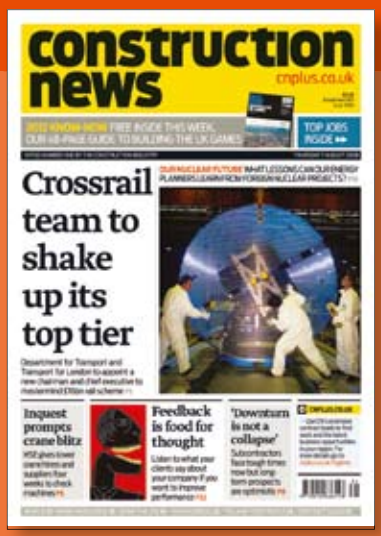
5 issues for only £5

Construction News delivers insight and analysis on the week's most important news stories, PLUS in-depth features and special reports. It gives you the background information and the confidence to base your business-critical decisions upon.

- **The latest news** – the week's hottest stories – the national news that affects your business.
- **In-depth weekly features** – detailed project reports, market analysis, business forecasting, technical coverage, changing regulation and management advice.
- **Contract leads** – over two hundred reliable business leads courtesy of **Emap Glenigan**, the leading construction information supplier.
- **Latest job information** – find that perfect position.

PLUS

Daily information at your fingertips – our website, **CNplus.co.uk** is the perfect complement to your subscription and helps you stay on top of industry news on a daily basis.



Subscribe by 31st May 2009 and pay only £5 for your first 5 issues – after this you will be entitled to a reduced subscriber rate.

Visit www.subscription.co.uk/conews/cpdn or call 0844 848 8859 and quote Priority Code CPDN

CN012

construction news

Voted number one by the construction industry

* Offer available to direct debit subscribers only. Other payment methods receive a 16% discount off the cover price.

THE TIME HAS COME

Building industry in steep decline

Tens of thousands of jobs are being lost. Factories are being closed. People are losing their homes. Vital skills we need for the future are disappearing.

It's time to unite our fragmented industry to make our voice heard. We must articulate the most important things we need our Government to do, to ensure the return of liquidity and consumer confidence.

The time has come for individuals and organisations to join the biggest ever coalition of stakeholders in the built environment and make our voice heard. It's time for action to save our industry...

Get Britain Building

Sign up now...

WWW.GETBRITAINBUILDING.ORG