

NEW STEEL CONSTRUCTION

NSC

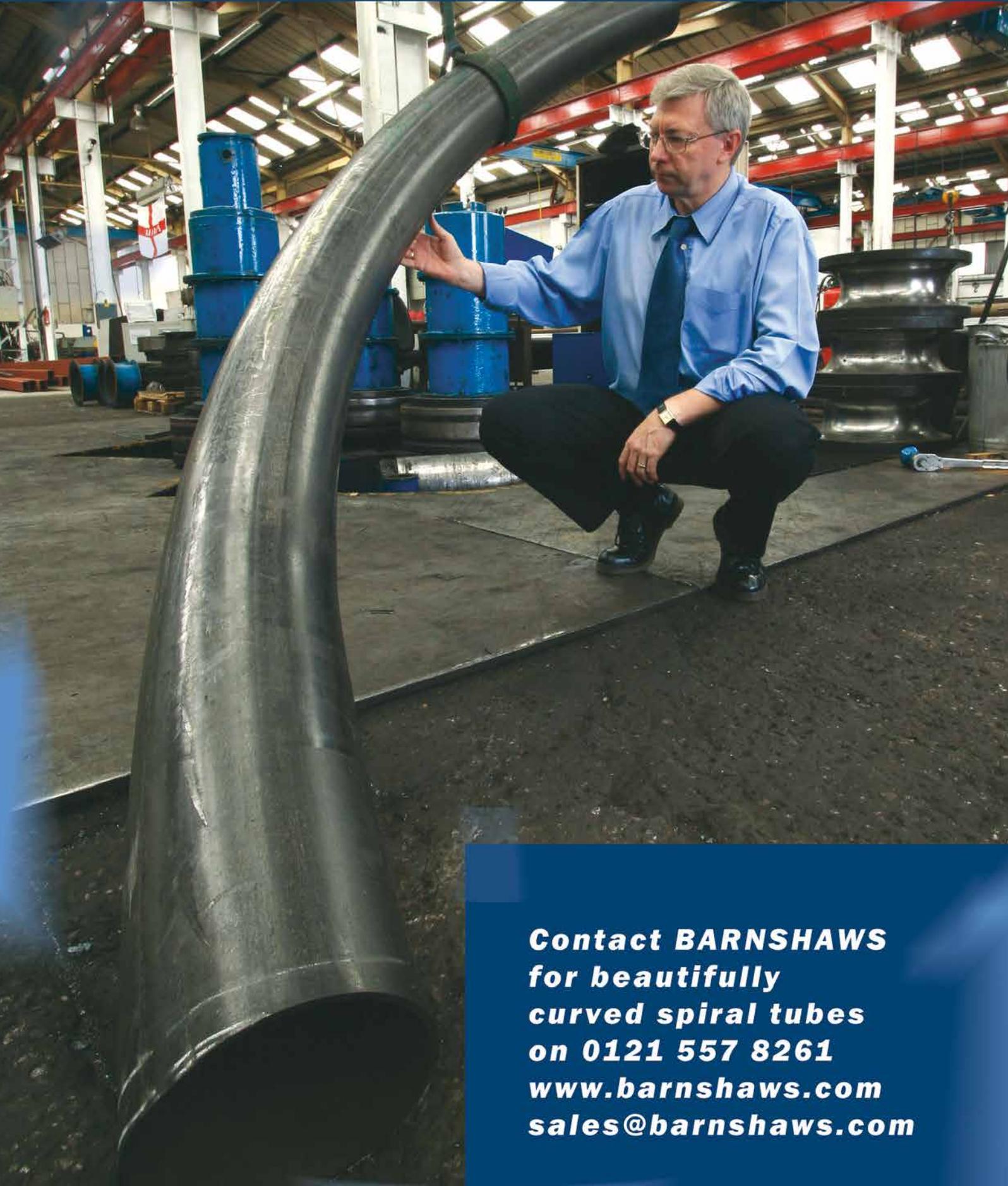
www.new-steel-construction.com



**New stand for Twickenham
IKEA sets store by steel
Undergraduate Design Awards**

Spiralled Tubes

up to 508mm diameter



**Contact BARNSHAWS
for beautifully
curved spiral tubes
on 0121 557 8261
www.barnshaws.com
sales@barnshaws.com**



Cover Image
TWICKENHAM SOUTH STAND
 Client: Rugby Football Union
 Architect: Ward McHugh
 Structural Engineer: Arup
 Steelwork Contractor: Cleveland Bridge

EDITOR

Nick Barrett Tel: 01323 422483
 nick@new-steel-construction.com

DEPUTY EDITOR

Martin Cooper Tel: 01892 538191
 martin@new-steel-construction.com

CONTRIBUTING EDITOR

Ty Byrd Tel: 01892 524455
 ty@barrett-byrd.com

PRODUCTION EDITOR

Andrew Pilcher Tel: 01892 524481
 andrew@new-steel-construction.com
 ISDN: 01892 557302

NEWS REPORTERS

Mike Walter, Victoria Gough
ADVERTISING SALES MANAGER
Sally Devine Tel: 01474 833871
 sally@new-steel-construction.com

PUBLISHED BY

The British Constructional Steelwork Association Ltd
 4 Whitehall Court, Westminster, London SW1A 2ES
Telephone 020 7839 8566 **Fax** 020 7976 1634
Website www.steelconstruction.org
Email postroom@steelconstruction.org

The Steel Construction Institute

Silwood Park, Ascot, Berkshire SL5 7QN
Telephone 01344 623 345 **Fax** 01344 622 944
Website www.steel-sci.org
Email reception@steel-sci.org

Corus Construction and Industrial

PO Box 1, Brigg Road, Scunthorpe, North Lincolnshire DN16 1BP
Telephone 01724 404040 **Fax** 01724 404224
Website www.corusconstruction.com
Email tsm@corusgroup.com

CONTRACT PUBLISHER & ADVERTISING SALES

Barrett, Byrd Associates
 Linden House, Linden Close,
 Tunbridge Wells, Kent TN4 8HH
 Tel: 01892 524455
 www.barrett-byrd.com



EDITORIAL ADVISORY BOARD

Dr D Tordoff (*Chairman*); Mr N Barrett; Mrs Sally Devine;
 Mr D G Brown, SCI; Mr M Crosby, Capita Symonds;
 Mr R Gordon, Mace Ltd; Mr W Gover, Consultant;
 Mr R Harrison, Glentworth Fabrications Ltd;
 Mr A Hughes, Tubelines; Mr A Palmer, Buro Happold;
 Mr R Steeper, Corus; Mr O Tyler, Wilkinson Eyre,
 The role of the Editorial Advisory Board is to advise on the overall style and content of the magazine.

New Steel Construction welcomes contributions on any suitable topics relating to steel construction. Publication is at the discretion of the Editor. Views expressed in this publication are not necessarily those of the BCSA, SCI, Corus or the Contract Publisher. Although care has been taken to ensure that all information contained herein is accurate with relation to either matters of fact or accepted practice at the time of publication, the BCSA, SCI, Corus and the Editor assume no responsibility for any errors or misinterpretations of such information or any loss or damage arising from or related to its use. No part of this publication may be reproduced in any form without the permission of the publishers.

CHANGES TO THE MAILING LIST

If you wish to notify us of a change:
Non Members of either the SCI or the BCSA please telephone Corus on 01724 404863
Members BCSA Telephone BCSA on 020 7839 8566
Members SCI Telephone SCI on 01344 623 345

SUBSCRIPTIONS

To take out a subscription please telephone 01344 623 345
 Annual subscription £92.00 UK, £117.00 elsewhere.

All rights reserved ©2006. ISSN 0968-0098

NEW STEEL CONSTRUCTION NSC

www.new-steel-construction.com



- 5 **Editor's comment** Nick Barrett congratulates the first crop of Steel Construction Sustainability Charter signatories to have successfully come through the audit process.
- 6 **News** A new guide to erecting multi storey buildings is launched by the BCSA.



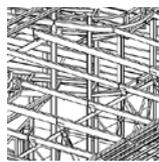
- FEATURES**
- 12 Engineering undergraduates impressed judges with the quality of their entries to this years' Corus **Undergraduate Design Awards**.
 - 13 Architecture students were congratulated for creativity and a high standard of presentation in the **Undergraduate Architect Awards**.
 - 14 The latest **IKEA** store was delivered to a very tight programme thanks to the use of a steel frame.
 - 16 Commercial shipping agents wanted a new headquarters that would stand out from surrounding structures at **Felixstowe**. Margo Cole walks the waterfront.



- PROFILE**
- 20 **Eddie Hole** of Corus Tubes has retired after a working life devoted to promoting tubular steel. He tells Nick Barrett how the battle to win over a sceptical market was won.



- FEATURES**
- 24 English Rugby Union's home at **Twickenham** will seat bigger crowds than ever before when the new South Stand is fully opened in November. Martin Cooper describes how steel helped deliver this prestige project.
 - 28 Barnsley's new **transport interchange** demanded some intricate 3D modeling to create a complex steel design.
 - 32 A steel framed **mega-warehouse** will form a centrepiece of a new business park in South Yorkshire.
 - 34 The Steel Construction Institute celebrates its **20th anniversary** this year.
 - 36 Dr Martin Heywood, Manager Construction Technology at the Steel Construction Institute, describes **building envelope developments**.

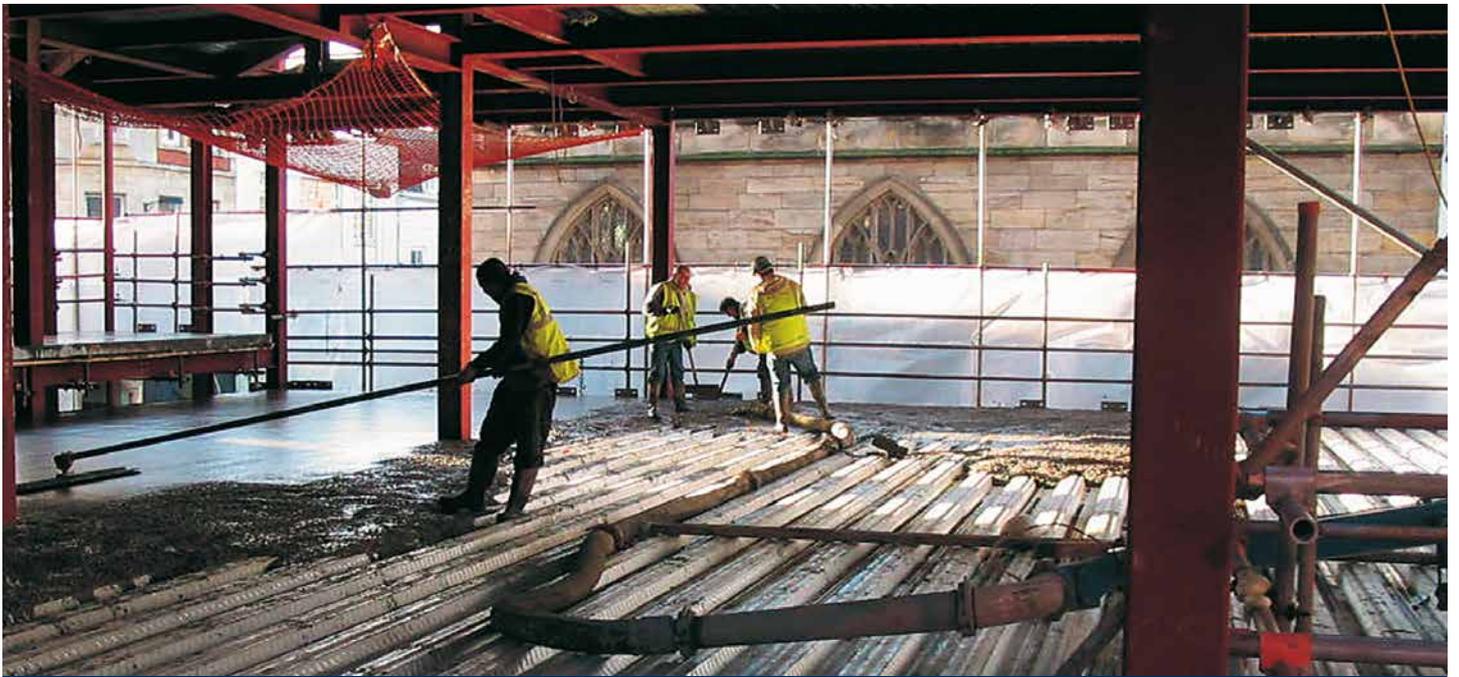


- 38 **Diary of Events and Courses**
- 40 **40 Years Ago** Our look back through the pages of Building With Steel focusses on new swimming baths for Coventry.
- 42 **Codes and Standards**
- 42 **Advisory Desk** The latest advice from the SCI – AD 303 – looks at disproportionate collapse regulations in Scotland.
- 43 **Publications**
- 44 **BCSA members**
- 46 **Register of Qualified Steelwork Contractors**
- 47 **SCI members**



The British Constructional Steelwork Association Ltd



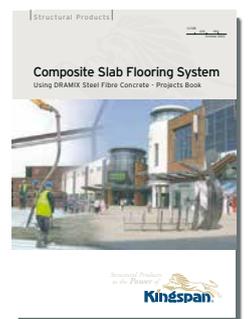


DON'T MAKE A MESH OF YOUR FLOORING. USE DRAMIX® STEEL FIBRES.



Dramix Steel Fibres.
Are added to the mix
prior to pumping to form
pre-reinforced concrete.

The combination of Dramix® steel fibres and Kingspan Multideck has now been used on ten storey projects and higher projects are in the pipeline. Download the case study book from www.kingspanstructural.com. Dramix® pre-reinforced concrete means there is no mesh to buy, transport, store, lay or trip over on site. And it's the only **ALL STEEL** fibre solution.



MULTIDECK

BEKAERT

Kingspan Metl-Con Ltd. Sherburn, Malton, North Yorkshire, YO17 8PQ. England.
Tel: 01944 712000 Fax: 01944 710555 e-mail: sales@kingspanmetlcon.co.uk

Sustainability charts the way forward



Nick Barrett - Editor

Congratulations to the eight steelwork contractors who have become the first to be successfully audited under the BCSA's Steel Construction Sustainability Charter. They will soon be joined by others who are currently undergoing the auditing process; eventually they will have to be joined by all companies of any ambition, as the day cannot be too far off when clients will simply refuse to have anything to do with suppliers who cannot prove their sustainability credentials.

The need for clients and others to show that they are creating sustainable developments is very strong, but some of them might struggle to define what a sustainable steel construction company should be, or know how to recognise one. The Charter provides them with the ability to do that. Charter member companies will have no problem differentiating themselves from those who think they are sustainable but who cannot prove it.

Fortunately for steel, the sustainability case has always been very strong. Steel has always been reclaimed when possible as it retains a value even when it has reached the end of its designed life, whether framing a building or supporting a bridge. Safety of erection is a big factor in the eyes of sustainability aware clients. Steel's offsite fabrication enhances the safety case and provides relief to local communities which are subject to far fewer lorry movements and other inconveniences of having construction works undertaken nearby.

The steel sector has not rested on these laurels however and a lot of work is either underway or being planned that will ensure that the answers are always ready to the increasingly rigorous questions being asked by an environmentally aware world. One of those questions will increasingly be 'Are you signed up to the Steel Construction Sustainability Charter?'

Further record output forecast

Record output was reported at the BCSA's annual lunch by President Donal McCormack (see News). The really good news was that he was able to forecast more records for the next two years at least, and that is before any Olympic games effect is felt. Market share is at an all time high in key sectors and there are more gains to come.

Against the background of continuing strong demand for construction materials worldwide it is no surprise then that Corus has announced price increases for structural sections to take effect from October. How will this affect the competitive situation?

The answer from recent experience has to be very little at worst and probably not at all. In fact, with energy prices and other costs of production rising at such fast rates as we have seen recently, other construction materials might see their prices rise even more. Forthcoming research commissioned by Corus will show the competitive argument in favour of steel as strong as ever.

It is an unfortunate fact of commercial life that raw material, energy, transport and other costs are rising worldwide so steel price rises are unavoidable. The facts in favour of using steel as opposed to other materials are as undeniably sound as ever – no 'silly season' advertisements from rivals can alter those facts.

Definitive guidance for high-rise construction

The BCSA has published the latest in its series of Health and Safety Executive (HSE) endorsed guides for steel erection. The new book, *Erection of Multi-Storey Buildings*, is a companion to the BCSA's other codes of practice that deal with subjects such as low-rise buildings, metal decking and the erection of steel bridges.

"The industry now has a definitive guide for multi-storey buildings," said Richard Barrett, managing director of Barrett Steel Buildings. "Steelwork contractors basically provided the impetus for this publication as we all decided it was needed a while ago."

The document has been devised to provide guidance to clients, planning

supervisors, principal contractors, designers and steelwork contractors. It describes the management procedures and methods to be adopted and is intended to serve as a reference when drafting site and project specific erection method statements.

According to the guide multi-storey buildings are defined as those structures that cannot be wholly accessed using mobile elevating work platforms from the ground. Generally these structures require columns to be spliced, and it is often necessary to use tower cranes for erection.

"The publication has taken more than two years to write as construc-

tion of multi-storey buildings is very complex," Mr Barrett explained. "Now steelwork contractors just have to follow the guidance to know they are operating in a safe manner."

Importantly, the HSE said it welcomed the publication and considers it as an industry standard in supporting the effective management of health and safety risk.

The HSE also said it is a clear example of industry self regulation, as the direct involvement of experienced and professional practitioners ensures that such guidance will be both relevant and authoritative.

The guide is also intended to aid



compliance with the *Health and Safety at Work Act*, and can serve, in part, to replace the withdrawn HSE publication *GS28 Safe Erection of Structures*.

Copies of the guide can be purchased from the BCSA at £20 to non members and £15 to members. Contact BCSA Publications on Tel: 020 7839 8566 or email don.thornicroft@steelconstruction.org

New convention centre and arena for Liverpool



Picture: Wilkinson Eyre Architects

Liverpool's riverfront will be transformed once a new arena and convention centre is completed in time for the city being European City of Culture in 2008.

More than 6,000t of structural steelwork is being supplied and erected by Watson Steel for the project on the banks of the River Mersey.

Forming part of the Kings Waterfront development, the overall project is the largest on-going scheme in Liverpool and has been designed by architects Wilkinson Eyre.

The centrepiece of the development is the Liverpool Arena and Convention Centre, which comprises a 9,500 capacity arena; an auditorium with a capacity of 1,350; a multi-purpose hall and 18 meeting rooms.

The arena will have the flexibility to host events ranging from concerts to children's entertainment, and from ice shows to tennis, boxing or gymnastics.

The convention centre can also be configured to cater for audiences of different sizes.

Alex Harper, Watson Steel's Project Manager said: "By the end of August we were approximately 70% finished, and final steelwork completion is scheduled for mid-November."

The arena is being constructed with steel columns and beams supporting rakers and a truss roof. "A typical football stadium design," Mr Harper said.

He added the convention centre is a more complex steel design with a beam and column make-up and big perpendicular trusses forming a double-floor layout.

Angus Palmer, Project Principal for Buro Happold added: "Designing the six steel trusses for the convention centre which give the lower level a column free 80m x 50m floorplan was very challenging."

Fire charter comes into force from October

The Regulatory Reform (Fire Safety) Order 2005 for all non-domestic premises becomes fully enforceable from 1 October 2006.

The legislation requires that any employer or any other person who may have control of any part of the premises, such as an occupier or owner, must carry out regular fire risk assessments. Employers can also appoint a competent employee to carry out fire risk assessments on their behalf.

The assessments must also pay special attention to any dangerous substance liable to be on the premises and identify risks that can be removed or reduced in order to prevent possible risk of fire.

The legislation covers all buildings and all industries. John Dowling, Corus Construction Development Manager said he is not aware that the legislation contains anything unique for the steel industry or steel framed structures. "However, everyone in the industry should be aware of the extra preventive and protective measures that they are expected to undertake," he said.

More information is available on www.firesafetylaw.communities.gov.uk

A charter for sustainability

Eight steelwork contractors have so far been successfully audited under the Steel Construction Sustainability Charter with a number of other companies currently going through the audit process.

Gillian Mitchell, BCSA Deputy Director General, said most steelwork contractors are taking advantage of the fact that they can complete the sustainability charter's audit at the same time as their three-yearly audit under the Register of Qualified Steelwork Contractors Scheme, at no extra cost.

Construction clients are increasingly looking for sustainable forms of construction and for companies which operate in a "sustainable" manner. Steel is a more sustainable form of construction than concrete, because it is recyclable, fabricated offsite and safer to erect.

The sustainability charter was launched to establish a mechanism for clients, specifiers and designers

to determine what a "sustainable steel construction company" is and how to identify such companies.

Companies signing up for the Charter are required to undergo a new sustainability audit and score a minimum of six points from a possible 12. Firms are then awarded Charter Status in three levels: Member for six, seven and eight points; Silver for nine, 10 or 11 points, and Gold for the maximum 12 points.

Those achieving charter status have to satisfy auditors on a range of requirements including having a published sustainability policy, monitoring of progress towards sustainability using specific management targets, having a programme of involvement with their local community on social issues and with the steel construction community generally, and having an accredited H&SMS to OHSAS 18001 or H&S management as an integral part of a QMS accredited to BS EN ISO 9001.

FICEP installs new processing equipment



Norwich based steelwork contractor DGT Steel & Cladding has installed its first FICEP machine for its production facility.

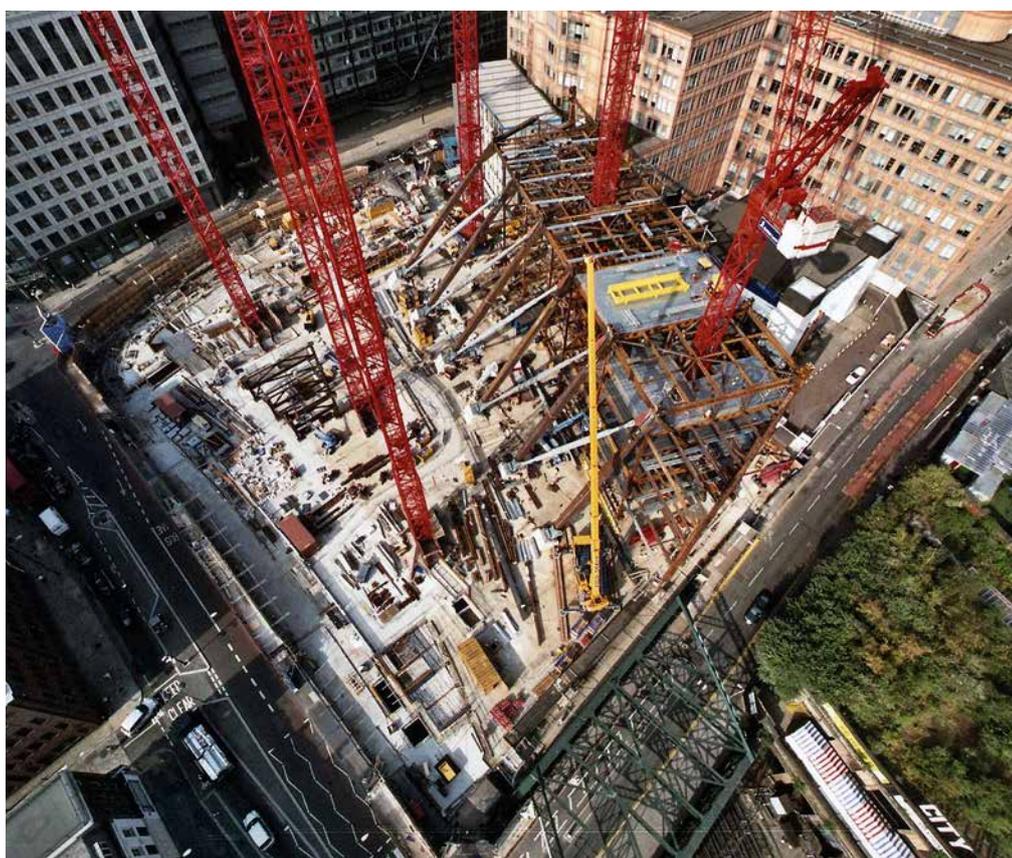
Supplied by FICEP UK, the company has taken delivery of a TIPO D8 automatic CNC punching, marking and shearing machine.

DGT Director, Gerry Pye said: "Our objective in ordering the

unit was to increase our production levels by decreasing the time taken for fabricating members, increasing throughput of the shop and improving load capacity for transport."

This is the first time DGT has bought any FICEP machinery and Mr Pye added: "All of the objectives have been met or exceeded."

City towers rising up with steel



The 35-storey Broadgate Tower and the adjacent 12-storey Bishopsgate Tower are beginning to rise up on the City of London's skyline.

The £292M steel-framed office blocks will increase the Broadgate estate, which houses financial giants such as Lehman Brothers and UBS, by 20% when completed in 2008.

Construction of the project has been complicated by the fact that four railway lines coming out of Liverpool Street Station need to be spanned. In order to achieve this, main contractor Bovis Lend Lease in conjunction with steelwork contractor William Hare, have built a steel 'raft' that covers the majority of the site.

The 'raft' structure was erected from six, five-storey high A-frame structures and is a twin-deck steel and concrete sandwich whose upper deck has been designed to support building loads, while the lower deck acts as a crash deck to protect the railway lines.

The higher Broadgate tower will straddle the 'raft', while the Bishopsgate building will sit squarely on the structure. The 'raft' will eventually form part of the gallery which will connect the two buildings at lower levels.

Contract Journal

5 July 2006

Green credentials

"Steel is the world's most recycled material," said Walter Swann, Corus Regional Technical Manager. "More than 80% of scrap is captured and recycled worldwide." When combined with re-use rates of up to 15% for some products, this means very little steel waste goes to landfill.

Construction News

20 July 2006

Record output

UK steel contractors and fabricators are on course to post a total output of 1.3M tonnes of structural steel this year, despite spiralling prices, industry body the British Constructional Steelwork Association claimed at its annual lunch.

The Times

17 August 2006

Up and ready

Larry Silverstein has rebuilt, opened and mostly leased the 52-storey glass and steel tower on the site of the former World Trade Centre. Tower Seven was finished ahead of schedule in May this year and under budget.

Contract Journal

23 August 2006

Steel price rise

"In the wider context, even the 50% increase in steel prices in 2004 is nothing compared to RPI growth over the past 20 years. From a base of 100, RPI is now 190. Steel is about 123, having been at about 93 three years ago," said Derek Tordoff, Director General of the BCSA.

Bolts get model specification

A model specification for the purchase of structural bolts has been issued by BCSA. Developed in consultation with BCSA members as well as a number of bolt manufacturers and suppliers, it has been based on the technical specification given in the National Structural Steelwork Specification.

The new specifications recognise the forthcoming introduction of CE Marking for bolts and consequently imposes a number of quality management requirements on both bolts supplied direct from a manufacturer and those provided by a supplier.

"We recognise that there will be

further developments in the pipeline for bolt standards with a number of European standards emerging over the next couple years," David Moore BCSA Director of Engineering said.

"Our intention is to update and re-issue the specification as and when these changes occur," Mr Moore added.

RIBA Awards recognise steel projects

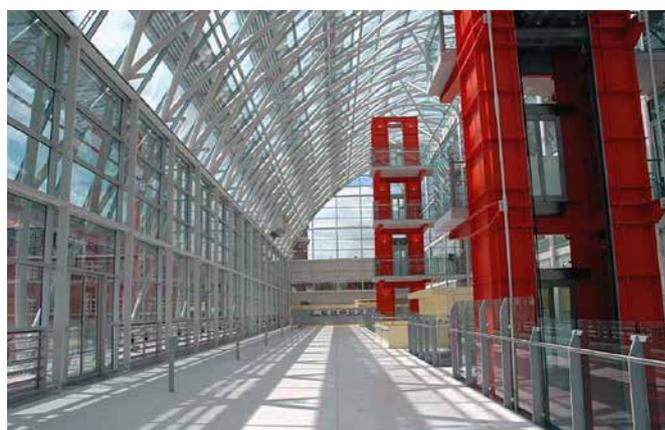
Steel buildings were well represented at the recent Royal Institute of British Architects (RIBA) Awards for 2006.

The Evelina Children's Hospital in London scooped the London health category award.

Designed by Hopkins Architects, the judges said the project lifted the spirits of its patients with its large glass atrium which stretches the building's entire 100m length.

Steelwork contractor SH Structures supplied and erected approximately 700t of predominantly tubular steelwork to form the atrium roof structure. Other steel elements of the project consisted of a large transfer truss and lifts.

SH Structures' Sales and Marketing Manager, Tim Burton said: "We are delighted that this project and two others were selected by RIBA for their design and environmental contribution."



The steel-framed atrium at Evelina Children's Hospital

The other two SH Structures' projects to be awarded by RIBA were the National Assembly for Wales, which won in the public building category, and the Research Area Facility in Macclesfield, which was awarded in the commercial structure category.

The prestigious RIBA Awards are presented to projects for their high architectural standards and contribution to the local environment.

Other steel projects to be awarded were the National Waterfront Museum in Swansea and the Spiral Cafe in Birmingham.



Steel checks in at the YMCA

More than 330t of structural steelwork has been used for the construction of a new YMCA complex in St Helens.

The project consists of two main parts: a two and three-floor section containing a sports hall, gymnasium and creche, and a five-floor building of offices and teaching space, giving a total floor area for the entire complex of 5,200m².

Skelmersdale based steelwork contractor The AA Group (TAAG) erected the entire steel frame in approximately 12 weeks.

Ted Brookes, TAAG Contracts Director said the steelwork consists of a variety of stick and beam, as the building is a very light structure. TAAG's contract also included the supply and installation of metal decking throughout the complex.

"Steel was used for this job because of its cost and the speed of construction it offers compared to other materials such as concrete," Nigel Hawkins, Project Manager of main contractor Morrison said.

Outlook fair for second century

Record output by the constructional steelwork industry over the coming few years was forecast by BCSA President Donal McCormack at the annual lunch. Output growth was continuing against a background of increasing market share in key sectors, said Mr McCormack.

Clients and designers still preferred steel as a framing material despite the price rises of the past couple of years that had been forced on steel producers by rising world prices for raw materials, energy and transport. Steel was still cost competitive against rival materials and the other advantages of using steel provided an attractive competitive advantage to those who selected it. Market share was at an all time high in the key multi storey non residential market.

Total output of 1.336M tonnes of structural steelwork was expected this year and another 2% growth was expected in each of the next two years. 'Hosting the Olympic



BCSA President Donal McCormack

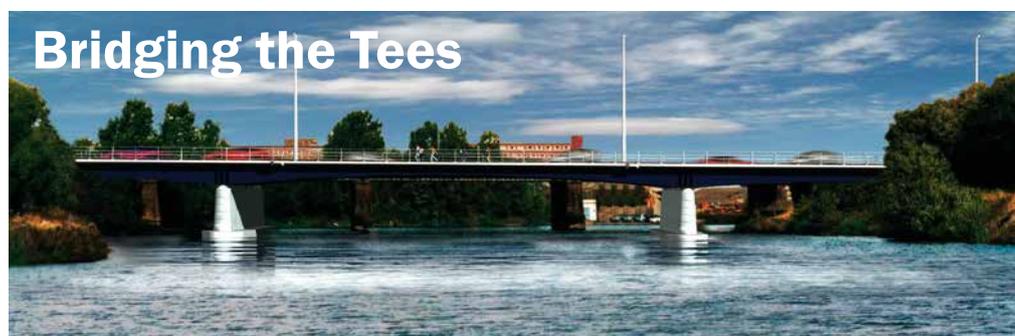
games should be of great benefit to our industry and further increase demand over the next five years,' Mr McCormack predicted.

Guest speaker Martin Nielsen of Scott Wilson, Chairman of the Association for Consultancy and Engineering (ACE), said he was honoured to be addressing the Associa-



Martin Nielsen of Scott Wilson

tion during its Centenary year. For the BCSA to have flourished for 100 years was a truly significant achievement, he said. 'We see evidence of your work, of construction and engineering excellence, every day,' he said. ACE backed BCSA's calls for action over the pace of implementation of Eurocodes



Bridging the Tees

Cleveland Bridge has nearly reached the halfway stage on its Surtees Bridge replacement project near Darlington.

The £3.3M contract, awarded by the Highways Agency, involves Cleveland Bridge supplying, fabricating and erecting 2,000t of steelwork for a new 150m-long twin three lane bridge to carry the A66 over the River Tees.

Ben Robinson, Project Manager

for Cleveland Bridge said the job has two phases. "The first part will be completed in October and involves the erection of the south bridge deck," he explained. The second phase, the erection of the north deck will be carried out during Spring 2007.

The bridge is nine girders wide, with each longitudinal girder split into five individual pieces with the longest part at 33m-long.

"We are currently delivering sections to the bridge and this involves several 150t loads at 55m long and 5m wide being transported," Mr Robinson said.

Throughout the project main contractor Edmund Nuttall is keeping two lanes open to traffic in both directions employing contraflows. The new Surtees Bridge is scheduled to open in Summer 2007.

Former BCSA President dies

Wilfred Fletcher CBE who was BCSA President from 1972 to 1975 has died at the age of 93.

Mr Fletcher was well known as he had spent 40 years in the steel construction industry. Having

started out as a civil engineering apprentice trainee with Dorman Long he eventually rose to the position of Managing Director for Dorman Long Bridges Engineering and ultimately, after nationalisa-

tion, to looking after British Steel's Construction Engineering Division.

In his retirement, Mr Fletcher lived in Salcombe, Devon, and took a keen interest in the industry and in the BCSA right up to the time of his death.

The **SCI** will hold its annual lunch on 16 November at London's Landmark Hotel. For further information contact Clare Convy, Tel: 01344 636549, c.convy@steel-sci.com

Corus International has expanded its Middle Eastern construction presence by investing in a new facility in Dubai to produce steel decking profiles. The facility will manufacturer two profiles, CF46 and the deeper CF80, which will be the first fire-rated steel composite deckings to be made in the Gulf region.

Easi-edge has undergone a total re-branding exercise which covers all aspects of its corporate stationary and literature as well as vehicle liveries and site signs. The company website has been redesigned and a new logo is now present on all products.

The BCSA has teamed up with Willans Solicitors to form a **debt recovery** service exclusively for its members. Willans will be able to chase members unpaid debts at a discounted cost and the service is available now.

The BCSA now offers its members a full range of **insurances**: PI, Employers', Public & Products Liabilities and Insolvency Protection via Griffiths and Armour. For further details contact: Simon Keenan of Griffiths and Armour on 0151 236 5656. Additionally, Quinn Direct provides a special deal for BCSA members on its insurances.

Metsec's lattice joists division has supplied long span, curved lightweight steel lattice trusses to support the roof of a new medical centre in Staplehurst, Kent. Planning restrictions meant the ridge height of the two-storey building was critical but the high strength to weight ratio of Metsec's trusses allowed the engineers to design a solution which was sufficiently shallow at the eaves and still achieved the required long spans.

Eurocodes on the web



A new website dedicated to information on the application of Eurocode 3 for steel and Eurocode 4 for composite construction has been launched.

Known as www.access-steel.com

the hyperlink offers a fast, easy and completely free route to all relevant Eurocode information.

"Three clicks on the site is the equivalent to soaking up ten practical seminars and demonstrates how simple it is to design to Eurocode using steel," Graham Owens, Director of the SCI said.

"Applying the Eurocodes is like learning to swim and the only way to get ahead is to take the plunge," Mr

Owens added. "Access Steel provides the insulation."

Site navigation is similar to a search engine, and the website offers both free text and guides the user through all the steps in the design of single storey, multi-storey and residential construction.

Access Steel is targeted at the needs of architects, engineers and their clients. Its content spans everything from conceptual to detailed

design in Eurocodes.

The technical guidance is quality assured and harmonised and has been produced by six leading technical European institutes: SCI (UK); CTICM (France); Labein (Spain); RWTH (Germany); Arcelor Profil (Luxembourg), and SBI (Sweden).

"The site sends out a very clear message to designers everywhere to get ahead with the Eurocodes," Mr Owens summed up.

Hull city centre gets a make-over

Steel is playing an important role in Kingston-upon-Hull's on-going city-centre regeneration scheme. Overall known as St Stephen's, the £160M retail and leisure development is the second largest mixed-use project in the UK and has been designed by a team including Foster & Partners and Wilkinson Eyre.

Located on a 40-acre site, the project will include: a new state-of-the-art transport interchange; more than 30 retail stores; a Tesco superstore; an 80-bed hotel, 220 new homes and a new home for the Albemarle Music Centre.

According to Jaime Greenock, Project Manager for steelwork contractor Bone Steel, it has been the Albemarle building which has been the most challenging aspect of the project so far for his team.

"The steel-framed structure is oval-shaped and consequently needed 14 skewed columns," Mr Greenock says. "They couldn't be conventionally bolted to plates because they'd just fall over, so we had to tie them together with cross-members using a frame."

Bone Steel has been on site since July and is supplying and erecting

1,700t of structural steelwork for the entire project.

Approximately 700t will be used for the Tesco superstore which is a one-storey steel-framed structure covering 10,000m². Another large steel element - requiring nearly 400t - is the eight-storey hotel building which will sit on top of a concrete multi-storey car park.

Mr Greenock adds a further 300t of steel will be supplied for the upper and roof level of the shopping centre, while more than one-mile of shop front steel will also be erected.



Record entry again expected for Design Awards

Structural Steel
DESIGN AWARDS

The sponsors of the Structural Steel Design Awards, the BCSA, Corus and the SCI, have invited entries for the 2007 competition.

The organisers are again anticipating a record number of entries for the awards which celebrate the excellence of steel structures in the United Kingdom or overseas that have been built by UK steelwork contractors using steel predominantly sourced from Corus.

The Awards are open to steel based structures in the UK or abroad, but they must be ready for occupation or use during the calendar years of 2005 and 2006.

The objective of the Awards is demonstrate steel's potential in terms of efficiency, cost effectiveness, aesthetics and innovation.

Commenting on this year's entries, David Lazenby, Chairman of the Judging Panel said the range of work continues to be enormous and all were good, some were very good and a handful outstanding.

Closing date for submission of entries is 15 December. For more information contact Gillian Mitchell, Scheme Administrator by email: gillian.mitchell@steelconstruction.org



the power to innovate

20 Years of World leading software



Dedication and sole commitment to the structural steelwork industry has enabled us to create our world leading software solutions.

Our commitment to continual improvement has made our renowned 3D detailing, analysis and fabrication management products possible, constantly evolving to meet the needs of this international industry.

StruCad V11

The Ultimate 3D Steel Detailing System

StruM.I.S 5.2

The Ultimate M.I.S for Steel Fabricators

As we celebrate our **20th anniversary as the industry's innovator**, we look forward to the future. With our focus firmly on your requirements, AceCad is devoted to developing our software products to further increase your productivity.



www.acecad.co.uk

For information on how AceCad Software can help your business contact:

t: +44 (0)1332 545800 e: sales@acecad.co.uk

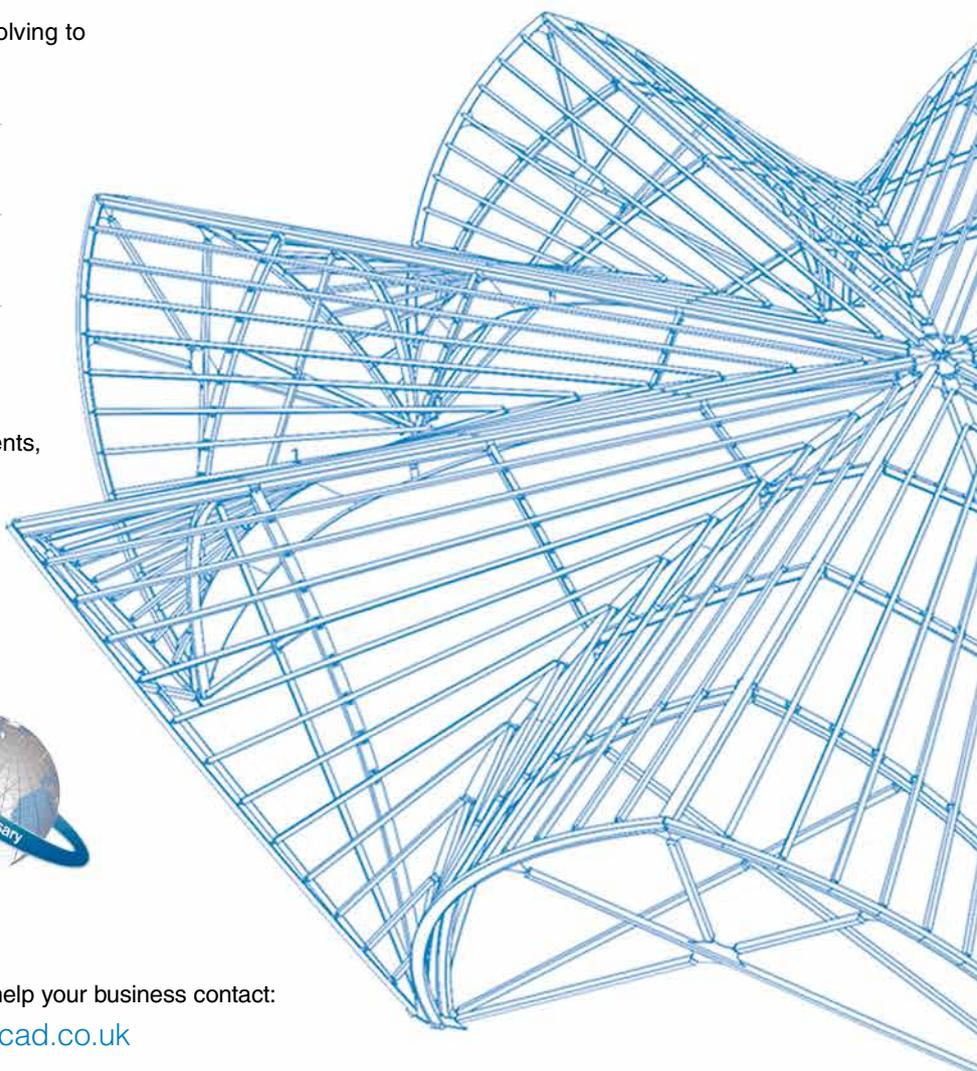
“We can confidently say that StruM.I.S has significantly added to our ability to compete effectively in the market.”

- Billington Structures Ltd

“Had we not bought StruCad, it is safe to say that Hallmason would not exist today.”

- Tony Marshall, Hallmason Design Ltd

Some words from our clients.



"The excellence we have seen in these designs is way beyond what would be expected from undergraduates."



The rollercoaster building demonstrated flair and individuality

Corus undergraduate design awards

This year's competition involved designing either a bridge over a deep gorge or a high-level access building for a rollercoaster.



Above: Queen's University, Belfast

Below: London South Bank University



The winners of this year's Corus Undergraduate Design Awards, which was held at the Institution of Civil Engineers in London on 14 July, were Queen's University Belfast and London's South Bank University.

The national awards were divided into two categories, one for steel bridge design and one for structural steelwork design. The teams had to submit calculations, drawings, cost estimates and construction methodology to back-up their schemes.

The bridge design winners were a team from Queen's University, Belfast, comprising Ciaran Doherty, Richard Crymble and Jon Hilditch under tutor Dr David Stewart.

The brief was to design a structure to carry a single carriageway and two footpaths spanning 200m over a deep gorge. A wide range of solutions was available, and the judges were looking for a cost-effective and elegant solution. The idea was to both motivate and challenge the entrants into producing something that also paid close attention to safety and maintenance.

Steel Construction Institute (SCI) Deputy Director David Brown said the judges were impressed by the Queen's entry's design development, and particularly the launch and construction scheme.

Manchester University claimed second spot in this category while Edinburgh University came third.

A London South Bank University team of Tarun Sharma, Alan Clarke, Jose Figueiredo and Samson Matiradonna under tutor Ken Smith won the structural steelwork rollercoaster category.

The brief for this category consisted of designing an entry/exit platform 10m above ground level to access a rollercoaster. Other aspects to be included were features such as weather protection, a viewing platform and a means for controlling queuing.

Entrants were expected to demonstrate individuality and flair in this

Winners of architectural awards announced



The winning bridge design.

category, in addition to showing an understanding of structural design. The judges said the Queen's entry represented an integrated design solution that showed strong scheme development with the final connections and detailing being well designed.

Corus Construction & Industrial General Manager Technical Sales and Marketing, Alan Todd commented: "We thank all the tutors involved in the entries for using the competition as part of the curriculum. The excellence we have seen in these designs is way beyond what would be expected from undergraduates. We are proud to remain committed to our sponsorship of such a high quality competition."

The judging panel for the structural design was chaired by Alan Jones of SKM Anthony Hunts, while Barry Mawson of Capita Symonds chaired the bridges panel.

Sustainability in construction design was an underlying theme at the awards ceremony. SCI Director, Graham Owens, told students that sustainability would be a key driver in their future careers. "This year's entries show that some students are even ahead of us in incorporating sustainability into construction designs. The built environment has become more fully sustainable in our working lives, and you will be the custodians of this. Enjoy the journey."



*Above: Cambridge students take first prize.
Below: Ladies get third place*



At a ceremony held at the Royal Institute of British Architects (RIBA), Ben Burley and Kyle Buchanan from Cambridge School of Architecture scooped the first prize at this year's Undergraduate Architect Awards (UGAA) with their entry 'Generation-space' - a creative solution using steel to illustrate how architecture can communicate global environmental issues to individual communities.

The entry demonstrates how the collective power of a city can be used in the production of local energy, creating an unprecedented bond between public space, homes and a community.

The second prize was awarded to Taylan Polat from the Rotterdam Academy of Architecture, while third place went to a team of Emily McKee (Leeds Metropolitan University), Chloe Clay (Manchester University) and Marian Ware (University of Nottingham).

An independent jury chaired by Jasmin Shariff of Dennis Sharp Architects selected the winners. Commenting on the entries, Ms Shariff said: "We were very impressed with the extraordinarily high standard of presentation and creativity shown. Designs were innovative in their demonstration of how steel can be used in sustainable development."

Steve Thompson, Senior Architect at Corus and fellow UGAA judging panel member commented: "UGAA provides a vehicle for undergraduates to learn about the use of steel in sustainable developments. In ensuring the lessons of today are passed on, Corus is committed to driving the sustainable agenda through its education and training programmes."

"It is for this reason that the brief for next year's UGAA will ask students to consider how steel - as a 100% recyclable material - can be used in structures that help address climate change and the effect it is having on one of our most valuable resources - water," Mr Thompson summed up.

In addition to the winning teams, judges commendations were awarded to: Alberto Bruno - Politecnico Di Torino; Alexander Mertens - University of Arts, Berlin; Jordan Hodgson - Leeds Metropolitan University, and Darren Maryon - Greenwich School of Architecture.

Steel tops the shopping list

A steel framed structure was the answer to a very tight construction programme for the latest IKEA store.

FACT FILE

IKEA store, Ashton-under-Lyne, Greater Manchester

Main client: IKEA

Architect:

Stubbs Rich Architects

Structural engineer:

BWB Partnership

Main contractor:

RG Group

Steelwork contractor:

Atlas Ward Structures

Project value: £35M

Steel tonnage: 2,700t



The fifteenth and latest IKEA store is due to open in October in the Manchester suburb of Ashton-under-Lyne

The iconic Swedish home furnishing retailer was granted planning consent to build the outlet on the site of a former United Utilities depot and the town centre location has proven to be one of the most challenging aspects of the project.

The site is bordered by a railway line on one side and busy roads on the other three sides, consequently deliveries to site have to be planned in advance and a 'just-in-time' system is being utilised.

Jeff Hogg, Atlas Ward's Site Manager says there is little room to store materials on site so approximately two deliveries of steel are made each day and this is usually erected almost immediately.

Mr Hogg says by using steel the project has less need for storage or associated plant. "For such a confined site using steel makes sense and we only need to have three mobile cranes on site," he says. "If concrete was being used the site's little spare space would be overrun with equipment."

Dave Dixon, Project Manager of main contractor RG Group agrees, but adds that steel was chosen primarily because it best suited the extremely tight construction programme.

Mr Dixon says construction work began in January and once all foundation work was completed steel erection was able to begin in March. "The building has to be fully functioning by the end of October and any other material than steel would've added time onto our schedule," he adds.

Atlas Ward Structures worked closely with the structural engineers and architect during the planning stage. It will have ultimately erected 2,700t of structural steelwork by the August completion date. The main structure is basically a rectangular four-storey building measuring 80m x 128m at the footprint with an attached three-storey office block - measuring 16m x 96m - at the front.

The structure's storey make-up consists of two warehouse levels at ground first floor, one showroom level and then two floors of car parking, one of which is on the building's rooftop.

Atlas Ward's Project Designer John Taylor says the main building's basic grid plan is 8m x 16m and this is constant throughout the structure, including the office block. "The client wanted an open-plan environment throughout and steel can obviously give these large spans," Mr Taylor says.

Columns used in the store are a variety of 356 x 406UCs and 356 x 368UCs, while beams consist of 914UB's on the lower levels and 838UBs on the car park. "Lighter loads will be experienced on the car parking levels, so smaller beams will be erected," Mr Taylor explains.

The double-level warehouse taking up the bottom two floors will initially have a mezzanine floor which covers approximately one-third of the total footprint. However, Atlas Ward has designed



the building to accept future plans for the mezzanine to be extended throughout the floorplan.

"We've used larger columns than necessary for the warehouse zone," Mr Taylor says. "So they can take the extra loading if IKEA decide to expand the floor." Floor heights also vary throughout the project and Atlas has taken this into account during the planning stage.

The warehouse zone has floor heights of 5m - to accommodate high stacking of stock, the showroom floor has a height of 5.7m, while the covered lower car park storey's height is 4.6m.

Meanwhile, the adjoining three-storey office block has a similar grid plan as the store and consequently some of the same columns and beams have been utilised, Mr Taylor says. However, the office structure has a number of lift shafts and stairwells which the frame had to go around. "This means we have a number of columns off-grid," Mr Taylor adds.

A feature of the office block is its central lobby area which required a large open span. Mr Taylor says Atlas designed 250mm x 250mm box sections to create the space, using these instead of the traditional beam matrix.

As well as working in close collaboration with engineers and architects during the design stage, the project has also seen some close cooperation between Severfield Rowen's steelwork companies.

Atlas Ward designed the project and supplied and erected all the steelwork. However, two ramps, one serving the car park and one for HGV's delivering to the warehouse, have been supplied by sister company Watson Steel.

Mr Hogg says the ramp taking cars to the third floor and then onto the building's rooftop fourth level is supported by one large trusses which has been delivered to site by Watson Steel in two separate pieces.

The trusses each weigh 17t and are 18m-long by 5m deep and once they have been welded together they will be craned into position in one lift. "This will be the heaviest lift of the entire project," Mr Hogg says. "And we'll have to bring a 500t capacity mobile crane on to site especially."

Atlas Ward's contract has also seen it design and erect perimeter steel for the car park. The barriers are made from two box sections welded together, says Mr Taylor. Other aspects of its contract include erection of all pre-cast concrete floor sections.

"Time is tight on this project and because we are erecting the steel and also the pre-assembled concrete floors there are less hold-ups and the same cranes can be used," Mr Hogg explains. "The less trades on site the quicker the job can be finished."

The four-storey structure will have a three-storey office block at the front.



Some quick construction means the store will open in October



The headquarters will feature 'brise soleil' solar cladding.

China shipping drops anchor at Felixstowe

An exciting new headquarters building is bringing a new style of architecture to one of the UK's busiest ports, as Margo Cole reports

FACT FILE

Shipping Headquarters, Felixstowe

Main client:
China Shipping (UK) Agency and Johnson Stevens Agencies

Architect:
Colwyn Foulkes & Partners

Structural engineer:
Price & Myers

Main contractor:
Jackson Construction

Steelwork contractor:
DA Green & Sons

Value: £6M
Steel tonnage: 170t

The Suffolk port of Felixstowe is a busy place, bustling with ferries, container ships and heavy goods vehicles. Like most ports, however, its buildings tend to be functional rather than decorative, and the only landmarks are the massive cranes and gantries at the quayside.

That situation is set to change later this year with the completion of a new headquarters building for two commercial shipping agents. "The client wants

"The client wants a building that stands out from everything in this area."

a building that stands out from everything in this area," explains Peter Brightey, site manager for Jackson Construction, which

is building the £6M office development. It is sited at the entrance to the main road into the port, and – it is hoped – will spearhead regeneration and high quality design.

London-based architect Colwyn Foulkes & Partners won a competition run by client - China Shipping (UK) Agency and Johnson Stevens Agencies - with its striking design for an open plan building with a total internal floor area of 3,931m². Among a wealth of innovative architectural features are a facade that features a large area of curtain walling with distinctive timber 'brise soleil' solar shading panels and copper cladding.

The new building is L-shaped in plan, with a full height entrance atrium in the external corner and

The structure is a steel framed L-shaped building





Dream Team

FICEP, a world beating team of automated steel cutting, scribing, high speed drilling, sawing, punching, notching and shot blasting machinery - use them as stand-alone machines or integrate them into a complete, software controlled production line to deliver maximum cost efficiency and control

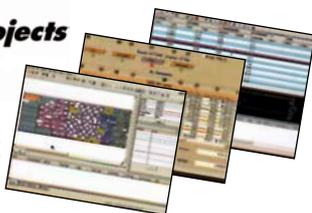
FICEP have over 100 machines for the processing of steel which can be used as stand-alone machines or integrated into a fully automated, high speed production line using state-of-the-art CAM software. These CNC machines now incorporate FICEP's unique patented, automated scribing system, a feature which

offers substantial savings in time and labour costs. When this is combined with industry leading CNC machines and automation software, the productivity increases and reductions in production costs that are achievable are unprecedented within the structural and steel fabrication industry sector.



steel projects

**AUTOMATED
CAM SOFTWARE**



**DRILLING, PUNCHING,
THERMAL CUTTING,
MILLING & SCRIBING**



**HIGH SPEED DRILLING,
SAWING & SCRIBING**

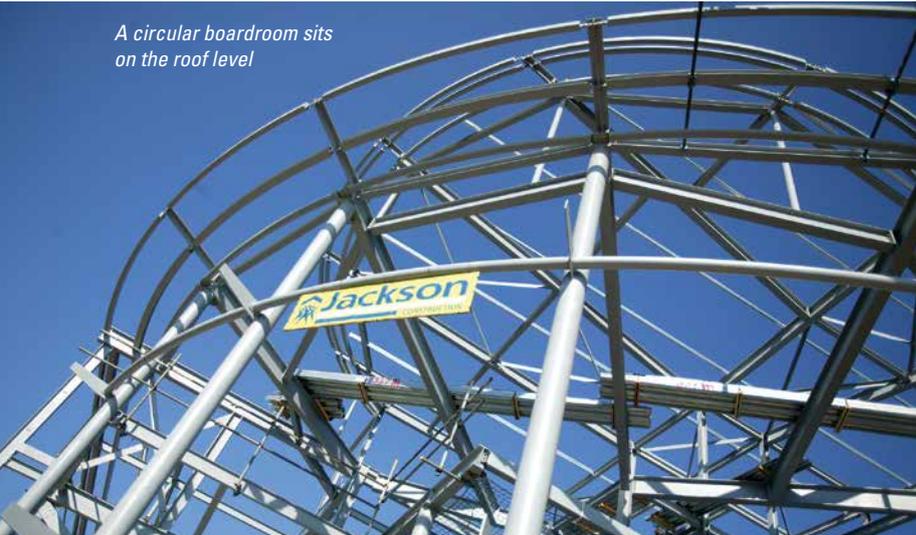


SHOT BLASTING



FICEP UK Ltd., 10 The Courtyards, Victoria Park, Victoria Road, Leeds LS14 2LB.
Sales Tel: +44 (0) 113 265 3921 Fax: +44 (0) 113 265 3913. E-mail: info@ficep.co.uk www.ficep.co.uk

A circular boardroom sits on the roof level



The second floor will feature a balcony



three floors of offices in the two wings. At roof level there is a plant deck and a circular drum-shaped boardroom.

The building's structure consists of a steel frame supporting two composite steel and in situ concrete floors, topped with a roof that is made up of 300mm thick precast concrete slabs beneath the plant rooms and a standing seam roof at the front.

The architect's design includes a curtain walled front facade, feature atrium and open plan offices, so much of the steelwork will be visible in the finished building. As a result many of the columns are circular steel sections, including all the columns on the front elevation and the single row of "spine" columns running the length of each office wing. This layout gives a typical bay size of 9m x 6m.

Structural engineer Price & Myers designed the structure and then passed the frame design onto Jackson Construction's steelwork subcontractor

The curved steel of the boardroom 'drum' is designed on a different curve to the atrium beneath

DA Green. "In some ways it is quite a straightforward frame, but there were some challenges," says DA Green's Contracts Manager Ian Burchnall. These include an overhanging roof, a balcony at second

floor level, and the curved steel of the boardroom "drum", which is designed on a different curve from the atrium beneath.

The second floor balcony is created by stepping the wall in by 1500mm, resulting in the columns above - 139.7mm circular hollow sections - springing from the floor beams rather than sitting directly above the columns below. These columns support the roof, which includes a 3m cantilever

Nationwide delivery service
of all Structural Steel Sections

RAINHAM



Phone: 01708 522311



overhang running the length of the front elevation.

"Only the corners of the roof overhang are propped," explains Mr Burchnell. "The rest of the roof is cantilever steel. We had a depth limitation on the roof, so we couldn't use deep hip beams." The cantilever beams are 7.278m long, 254mm x 146mm universal beams sections, supported mainly by the main spine columns and the rear elevation columns.

Another rooftop challenge was the boardroom, a curved, fully glazed eyrie that provides spectacular views over the docks and the estuary beyond. "We used curved steel for the board room, but it has quite intricate geometry and is made up of a lot of small pieces. The structure is quite complicated, and we had to install radius beams to pick up the loading from the boardroom, because it is on a different curve from the main frame," says Mr Burchnell. As a result, the board room columns – extremely slender 114.3 mm circular hollow

The 'drum' has been designed to give panoramic views, with nothing interrupting the glazing, so there was nowhere to put the lateral bracing.

sections - spring directly from these cross beams.

The "drum" has been designed to give panoramic views, with nothing interrupting the glazing, so there was nowhere to put lateral bracing. Instead, all the bracing for the boardroom is

provided through its roof structure, with loads taken right back to the lift and stair cores at the back.

These cores – and a fire exit core at the end of each office wing – provide the main permanent bracing opportunities for the entire building, although temporary bracing was installed between the

tubular front façade columns during construction.

"There are not many opportunities to get cross-bracing in the building because of all the windows," explains Mr Burchnell. "Some of the columns are designed to be visible inside the building, so they are tubular. That means we had to fix the temporary bracing to circular tubes, so we devised a clamp system to do that."

Most of the steel structure sits on the heavily reinforced ground slab, and utilises traditional holding down bolt details. However, the rear elevation steelwork and the structure around the lift cores and stairs sit directly on top of the concrete flood defence wall.

"We couldn't break through the flood defence wall, so the bottom of the bracing had to sit on top of the wall," explains Mr Burchnell. "It makes for interesting holding down bolt details – as do the base plates of the stair cores." One such base plate detail in the stair cores area features a 615mm x 225mm plate with 12 bolt holes. This sits directly on top of the flood defence wall, with the column fixed to one end of the plate. Tolerances on the holding down bolts on the concrete wall are tighter than the more typical details on the floor slab.

The flood defence wall also had an impact on the erection of the frame, as Mr Burchnell explains: "We couldn't put a crane within the footprint of the building because of the flood defences. It didn't affect the frame design, but it required the expertise of our site supervisor and erection team, working with Jackson, to ensure access around the building and build sequence were coordinated successfully."

Steel erection is now finished, and the building is almost weathertight. The timber that will form the striking brise soleil detail will arrive shortly, on time for the building to be completed - on schedule - in November.



Traditional holding down bolt details have been utilised.

S275 & S355 GRADES

STEEL

Fax: 01708 559024
www.rainhamsteel.co.uk

- Universal Beams & Columns
- Parallel Flange Channels
- Equal & Unequal Angles
- Hot Finished & Cold Formed Structural Hollow Sections
-



A lifetime promoting steel tubes

Retirement leaves a hole in tubes

Eddie Hole of Corus Tubes who has been one of the best known faces on the tubular steelwork scene for many years has retired. He tells Nick Barrett how Tubes successfully battled to secure its place in the market.



K2, St Katherine Docks in London is a prime example of tubular steel construction

One of the great structural engineering and architectural success stories of the past 50 years or so has been the widespread adoption of rolled hollow structural sections, or tubes. Tubular steel is a near ubiquitous feature of projects of all sizes today, from high profile stadia like Arsenal FC's new

It is hard to think of a notable structure that does not contain some element of tubular steelwork

Emirates Stadium, large transport related developments like T5 to local retail developments. It is hard to think of a notable structure that does not contain

some element of tubular steelwork.

One man who has a close up view of the rapid development of much of the past 50 years is Eddie Hole, who has just retired from Corus Tubes after a working lifetime promoting hollow sections. As Manager, Technical Marketing, Eddie has had the closest contact with the market so has strong insights into what it is that designers appreciate

most about tubular steelwork. Corus Tubes manufactures a wide range of products from tubes for sprinkler systems to very long span structures and multi-storey buildings. They all have one thing in common – a hole down the middle; Eddie describes himself as the only hole in the history of tubes that can walk and talk.

Not so long ago the situation was very different. Hollow sections had been used during the heroic age of engineering, when engineers and architects first appreciated the potential structural and aesthetic benefits. But the square and rectangular hollow sections available had to be expensively shop fabricated by welding or jointing together structural plates and sections.

The key breakthrough came in 1959 when Stewarts & Lloyds introduced a range of hot rolled square and rectangular hollow sections (RHS). 'That was what really freed up architects to express themselves structurally,' says Eddie. 'There were also developments in jointing technology which together meant that structural engineers

and steelwork fabricators could support the new enthusiasm of architects. Tubes have enabled architects to do what they want, rather than just dream about it.'

Eddie was still at school in 1959, and only joined Stewarts & Lloyds in January 1970, at which time there was still a lot of work to be done to promote RHS to a sceptical market. He started his working life however with the London Electricity Board in 1962 as a draughtsman. He then started training as an electrical engineer until 1966 when he became a design engineer with British Insulated Callenders Construction, better remembered perhaps as simply BICC.

Eddie recalls: 'I was happy with the LEB but I never felt that I really had the science aptitude that the best electrical engineers had, so I moved into construction and never looked back.' The decision was a good one as he gained Chartered status of the Institution of Structural Engineers at the age of 25 in 1970, after taking the 'long route up' as he calls it of ONC, HNC, endorsements and finally a seven hour I StructE examination paper. 'I passed all the exams and other requirements when I was 23 but I had to wait until my 25th birthday to gain membership under I StructE rules.'

The organisation he works for has changed its name a few times over the years, from Stewarts & Lloyds into British Steel Corporation – Tubes Division, then British Steel Plc Tubes & Pipes and now Corus Tubes. Throughout that time though – 36 years – he has been involved with the Technical Marketing of Structural hollow sections into the areas of construction, highways engineering and general engineering.

The battle to promote tubes to the market was initially hard, but one that stands as an example to any other construction product manufacturer. 'It was a crusade to get people to use tubes. In the early days we had to tell people that there even was such a thing as a hollow section available. People did not know how to design or detail tube. Fabricators were wary of the amount of welding they thought they would have to do. It can be fabricated just like any other product, but some people took a lot of convincing.'

There was no dramatic breakthrough says Eddie, just a gradual acceptance after a lot of effort over a number of years. 'People like to see things used and don't want to be the first to do something new. Construction is a conservative industry. But architects saw the potential first and pushed for it.' Architects like the clean lines and the aesthetics of circular profiles. 'It appears as the same dimensions wherever you look at it from,' says Eddie. 'With the software design packages available today you can practically build anything you can draw. Architects can still challenge us with their designs, which is a good thing.'

One early marketing effort was the establishment



of Tubewrights by Stewarts & Lloyds in 1939 to pioneer the use of hollow sections. The company grew to be a noted steel fabricator and structural engineering contractor, spreading the tubes message worldwide.

'Tubewrights removed all the myths,' says Eddie. 'They showed that tube was as easy to use as anything else.' Tubewrights was eventually shut down after management decided that the point had been proven. 'We were in a different era,' remembers Eddie. 'Marketing switched to providing technical advice to fabricators and structural engineers. We had our own welders who trained the fabricators welders and we had two design offices. We did all we could to make it as easy as possible for people to use tubes.'

Milestone projects included the National Exhibition Centre at Birmingham which was a proving ground for the Nodus system, a new way of approaching design of two dimensional space structures. Another was the Jumbo jet hangars at Heathrow. The Fort Regent Leisure centre on Jersey, one of the first single layer circular parabolic domes made in hollow sections, was another.

Getting a new mill at Corby in the late 1970's was a big help. Tubes today supplies about 350,000t a year to the UK construction market. 'That ranges from non load bearing uses to structural use for the biggest and tallest structures in the country.'

'I would like to see even more tube used in structures,' says Eddie. 'It is still not always used to its best advantage even though it is a fairly mature product in the UK. We have trailblazed the use of tubes in the UK so it might be hard to increase our market here much in percentage terms, but overseas there is still a long way to go. We have shown the world how to do it but we have to keep up the education effort and maintain the technical back up and research and development service.'

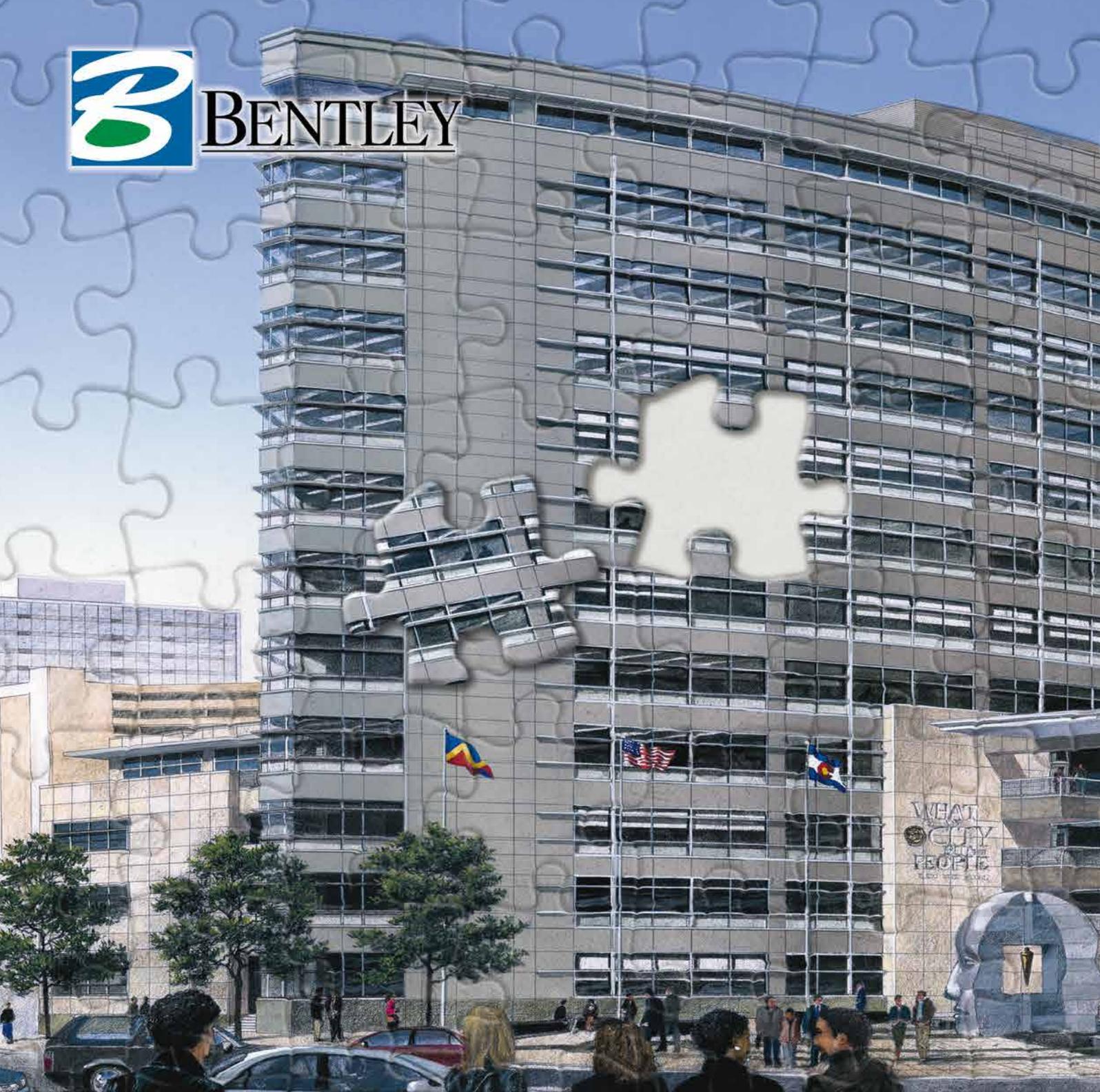
Future research areas might include seismic connections, new methods of connection, like using adhesives for example. Corus Tubes' commitment to R&D and new products development can be seen in the launch last year of the Celsius 355 Ovals range.

Regrets about leaving his working days behind? Some, but not too many. 'I have loved the job and have been a strong supporter of Tubes for many years. I will miss a lot of the working relationships but it is time to step aside and let some new blood in. What has worked in the past might not work in the future so it is a good idea to have some fresh input, new ideas and enthusiasm.'

Many high profile stadia have made use of tubes

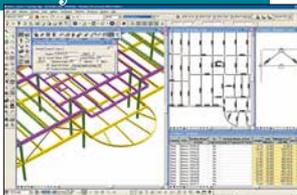


BENTLEY



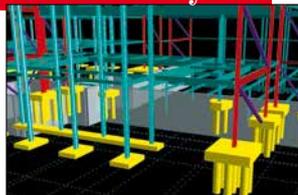
Civic Center Office Building, Denver, CO David Owen Tryba Architects/RNL Design

Bentley Structural™



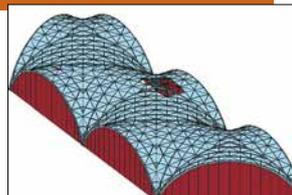
BIM for design and documentation of structural systems. Advanced, yet intuitive and easy-to-use building information modeling software for buildings and industrial plants.

RAM Structural System™



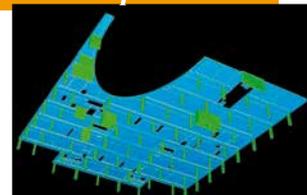
The industry's leading special purpose building analysis, design and drafting system! New! Now links with Revit.®

STAAD.Pro™



The market leader with 200,000 users in 85+ countries, and over 26 different design code checks. Finite element and advanced static and dynamic analysis with multi-material design of plants, bridges, towers and civil structures.

RAM Concept™



For the design of mats and elevated floors with reinforced or post-tensioned concrete. New! Now links with STAAD.Pro.

The Integrated Engineering Office.

It's the piece of the puzzle that you've been missing.

Are you working in an Integrated Engineering Office?

Where you are no longer burdened by tedious manual and error prone workflows. Where your team is more productive, focusing on creating the best structural solutions for your clients.

The Integrated Engineering Office has now been expanded with the joining of Bentley, RAM International, and STAAD products. Here you will find a common vision for delivering integrated structural design solutions that enhance productivity in your everyday design workflows.

Bentley fills in the missing piece of the puzzle in your practice, providing a continuous electronic workflow that fully integrates your engineering and CAD departments.

Nowhere else can you find such complete solutions for structural analysis, design and construction documentation. The result is greater collaboration, fewer errors, happy clients, improved business. That's the Integrated Engineering Office. Don't miss it. Please contact:



Research Engineers

A Bentley Solutions Centre

e: peter.stone@bentley.com



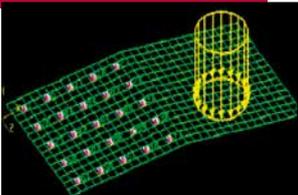
RAM International

A Bentley Solutions Centre

e: andrew.miller@bentley.com

Bentley Systems (UK) Ltd • Draycott House • Bristol BS32 4QH • UK
Tel: +44 (0)1454 207007 • Fax: +44 (0)1454 207001

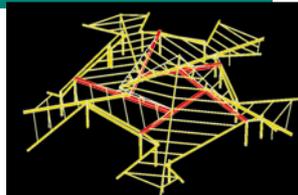
STAAD.Foundation™



STAAD.foundation enables engineers to analyse and design the underlying foundation for structures created in STAAD.Pro.

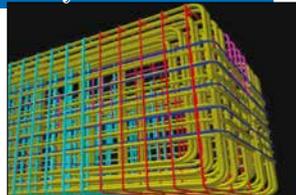
It automatically absorbs the geometry, loads and results from STAAD.Pro models and accurately designs isolated or combined footings and true mat foundations.

RAM Advanse™



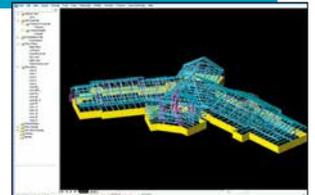
The Engineering Desktop System! Full featured 3D finite element analysis and design for virtually any structure. **New!** Full concrete design to BS8110.

Bentley REBAR™



From buildings, foundations and bridges to marine structures, **Bentley REBAR** ensures accuracy of design, quantities and plans - regardless of the complexity. The software enables you to respond efficiently to last-minute design changes and fast-track projects.

RAM CADstudio™



The missing piece. AutoCAD® based productivity and document management tool. Fully integrates engineering and CAD departments. **New!** Now with bi-directional information exchange.

FACT FILE

Twickenham South Stand,
London

Main client:

Rugby Football Union

Architect: Ward McHugh

Structural engineer: Arup

Main contractor: Carillion

Steelwork contractor:

Cleveland Bridge

Project value: £60M

Steel tonnage: 4,500t

Steel conversion for Twickenham

The new South Stand at England's home of Rugby Union will increase the ground's capacity and incorporate a hotel, conference and banqueting facilities, and a performing arts centre. Martin Cooper reports on how steel competed in the line-out.

England's Rugby Union team will kick off its Autumn international fixture list on 4 November, against New Zealand, in front of the largest-ever Twickenham crowd.

The match against the All Blacks will be the first time the new South Stand will be fully open with its three tiers raising the historic stadium's capacity to 82,000. The stand's lower tier has already been used during this year's Six Nations tournament.

However, the November date won't herald the end of the project's construction. As David Goward, Carillion Project Manager explains, there will still be a considerable amount of work to complete once the Autumn matches are over.

"During December the roof structure will begin to be craned into position, while final full fit-out of

The Rugby Football Union will have the largest dedicated Rugby stadium in the world.

the hotel and conference centre - which is a contract that hasn't been awarded yet - won't be complete until Summer 2007," Mr Goward says.

Once all of this work is finished, the

Rugby Football Union (RFU) will not only have one of the world's foremost sporting arenas, but also the largest dedicated Rugby stadium in the world.

The South Stand will make the arena a complete wrap-round bowl. The obvious difference being the commercial development behind the stand which will include a 200 bedroom four star hotel, a health and fitness centre, conference and banqueting facilities and offices.

Interestingly Carillion inherited a historic involvement with the project since its acquisition of Mowlem earlier this year. Mowlem built Twickenham's North, East and West stands during the 1990s and it seemed fitting that it should be awarded the contract, in 2005, for the final piece in the redevelopment scheme.

The company arrived on site on 18 July 2005, eight days after Controlled Demolition, who had already been appointed by the client, had blown down the existing two tier South Stand.

While the area was being cleared and new piles installed, a large amount of the concrete and steelwork was already being fabricated off-site. "Our contract has eight 'access dates' written into it, where the new stand has to be made available to the RFU," Mr Goward says.

Consequently, time was of the essence, as the first date which the RFU would require the stand was for the opening Six Nations match with Wales in February 2006. For this game, the 7,600 seat capacity lower tier had to complete.



The new stand will complete the Twickenham redevelopment

"Arup decided on pre-cast concrete units for the lower tier as it would speed up on site construction," Mr Goward explains.

Paul Simmonite, Project Manager for Arup agrees and says the available time windows for construction also meant much of the steelwork was pre-ordered and fabricated off-site at an early stage by Cleveland Bridge.

Although much of the lower grandstand tier and the structure's spine has been constructed with pre-cast concrete the attached middle and upper tiers are steel framed with concrete sections for the terracing. Meanwhile the commercial centre which wraps around the rear of the stand and the entire cantilevered roof are also steel structures.

Andy Hall, Operations Manager for Cleveland Bridge says the company is supplying and erecting an array of UB and tubes for the stand with the largest weighing 6.5t. "We've also erected 27 rakers for the mid and upper tiers, one for each grid line, with a maximum lift of 6.5t," he adds.

The upper tier cantilevers out from the rest of the structure by 12m. This, says Mr Simmonite caused

The stand had to be constructed to allow for enthusiastic rugby crowds celebrating at the top of the tier

a fair amount of head-scratching during the design stage as the stand had to be constructed to allow for the enthusiastic rugby crowds celebrating at the tip of the tier.

"Nothing out of the ordinary but the cantilever just needed a little more designing," he says.

As far as Mr Simmonite is concerned one of the biggest challenges in the design of the upper tier was creating enough clear space in the concourse to allow all of the spectators to escape down the access ramps. This meant this tier couldn't be braced in the same way as the existing stands, and consequently the steel connections are designed to take significant moments and shears to generate frame action.

"The upper tier raker is deeper than existing stands," Mr Simmonite points out. "The raker is anchored to the concrete frame using six high tensile macalloy bars cast with the RC works."

The middle tier is quite unconventional, says Mr Simmonite. "The stadium is designed to allow vehicles under the stand in the 14m wide open concourse. The middle tier sits above the lower concourse and it wasn't possible to support it on conventional columns," He explains. "Instead, steel raking columns are used to support the concourse steelwork which also props the steel rakers."

Topping the stand is a steel-framed roof which will be erected from 27 trusses and in-filled with purlings and a translucent cladding. The roof has a 41m cantilever from the base column.

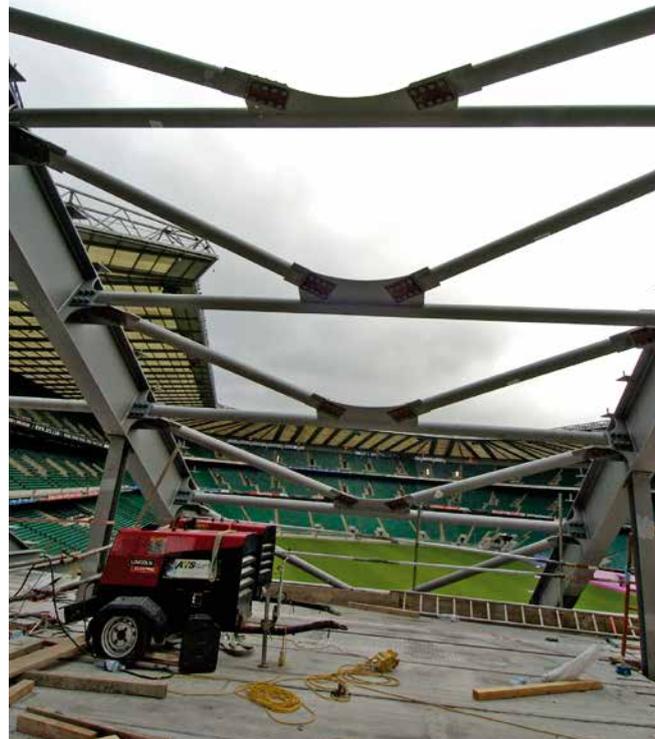
Architects for the project, Ward McHugh says the roof's structural form provides unimpeded views of the whole playing area by means of the cantilever tubular steel roof, which allows the flexibility to wrap around the corners as well as providing sufficient weather protection.



Above: Once complete, Twickenham will be a wrap-around arena

Top right: The upper tier incorporates a 12m cantilever.

Below right: The roof will be erected in December





"The plan is to erect the steel roof after the Autumn internationals are finished in December," Mr Hall says. The roof trusses are assembled on site and then lifted into position in pairs of 16m, 14m and 11m lengths with a maximum weight of 13t.

Meanwhile, Mr Simmonite comments that steel was primarily used in the commercial building because of the need for large open plan areas for the conference and banqueting rooms, as well as a large span over the building's indoor swimming pool.

Adjoining the 40m-high stand, the commercial and hotel complex is a stepped structure rising to six floors at the centre with a maximum height of 25m. As the lower two levels of the building house the open-plan areas, this means the structure's grid lines alter significantly from the third level upwards.

According to Mr Simmonite a total of 48 transfer beams have been used to give the lower levels their relatively column free layout. The largest of these beams are two 26t 26m-long plate girders used to span the banqueting area and the complex's swimming pool.

Mr Hall adds the company is supplying and erecting steelwork for two separate packages; 3,000t for the commercial and hotel complex and a further 1,500t for the grandstand.

"The commercial zone is the biggest package and we are basically supplying and erecting beams and columns," Mr Hall says. "The largest beams have been 5t 12m-long sections."

Cleveland Bridge is fabricating all steelwork at its Darlington yard and assembling all sections on site. "No steelwork element for the commercial zone has been that big, so everything has easily been craned into position," Mr Hall adds.

As well as three tower cranes being used to erect the grandstand, the commercial zone is being built with the aid of two 70t capacity mobile cranes.

The steelwork for the commercial zone is scheduled to be complete by October, beating the stand by a couple of weeks. Once the final fit-out is finished in May 2007, there is little doubt that Twickenham's redevelopment will have provided English rugby with the world-class stadium it deserves.

*Above and below:
The commercial and hotel
complex takes shape.*





Zed Purlin systems. Our track record speaks for itself.

Reasons to specify Metsec

- MetSPEC a market leading building shell design software with links to the latest wind code BS 6399-2 and an improved BREVe database for topography, plus MetPORT design software for portal frame systems.
- Quality assured, close tolerance products manufactured from 390N/mm² guaranteed yield strength light gauge galvanised steel with purlin system technical accreditation from the Steel Construction Institute.
- Comprehensive product range of Zed and 'C'-sections, with a full range of accessories, offers flexible and cost effective solutions backed by unrivalled service and technical support.

YOU CAN DEPEND ON METSEC

Metsec Purlin Division – the UK's largest manufacturer of light gauge galvanised steel Zed Purlin and cladding rail systems for industrial and commercial developments.

0121 601 6000

email: interactive@metsec.com

Metsec plc, Purlin Division, Broadwell Road, Oldbury, West Midlands B69 4HE
Fax: +44 (0) 121 601 6005

Metsec plc - Purlin Division

www.metsec.com



voestalpine

ONE STEP AHEAD.

CAD is just the ticket for new bus station

Barnsley's new centrepiece transport interchange required some intricate 3D modeling to create a complex steel design. Martin Cooper reports on how the detailing worked out.

Think of Barnsley and the surrounding South Yorkshire region and you probably think of coal mining and heavy industry. Although the town of Barnsley can lay claim to being mentioned as far back as in the Domesday Book, it owes its relative prosperity and importance to the Industrial Revolution of the late 18th Century.

From then on coal mining was the main employer in Barnsley, and it also provided the power for the other principle industries in the area, glass blowing, textiles and steel.

However, since the infamous strike of 1984, the coal industry has shrunk to the point where today there are no mines in the area. To combat this Barnsley has embarked on an ambitious programme of redevelopment under the banner 'Re-making Barnsley'.

Over the coming years the entire town centre will be transformed with one of the most integral elements of the programme being the

redevelopment of the bus depot which adjoins Barnsley railway station.

The overall concept is to develop a better interchange between rail and bus, while integrating a new landmark building into the town centre. Project architects Jefferson Sheard says it will be achieved by providing a high quality, fully enclosed

"The geometry is very complex and could only have been done with the aid of 3D computer design."

'glazed street' which will link into future developments in the Barnsley masterplan.

To create the desired landmark structural design, the architects and

engineers – Arup – came up with a building based on an extremely complex geometry. Billington Structures' Strucad Detailer Glyn Bassindale explains: "The geometry is very complex and could only have been done with the aid of 3D computer

FACT FILE

Barnsley Transport Interchange, Yorkshire

Main client:

South Yorkshire Passenger Transport Executive

Architect: Jefferson Sheard Architects

Structural engineer: Arup

Main contractor:

Laing O'Rourke

Steelwork contractor:

Billington Structures

Project value: £24m

Steel tonnage: 650t

The overall design has been described as 'swan-like'.

The 3D models show every steel member



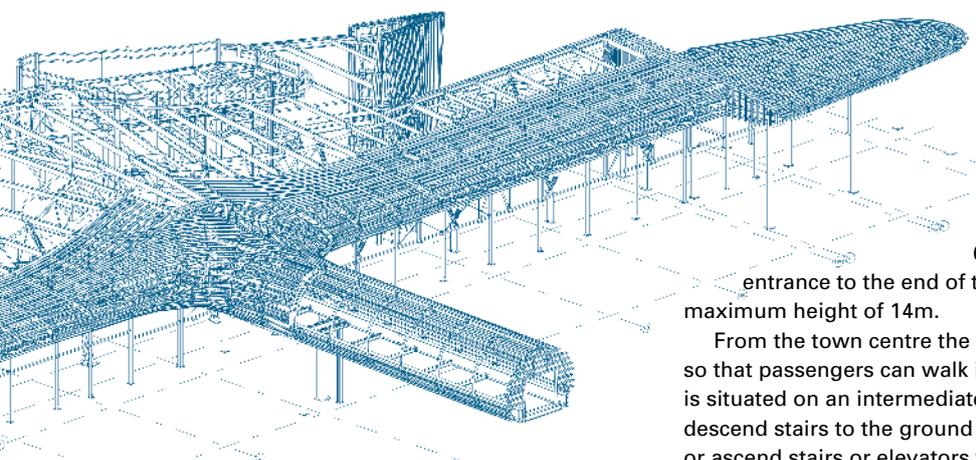
Steel allowed for the open-plan concourse design

design." In fact Mr Bassindale adds the design is so complex it took eleven months to draw and five months to actually set out the 3D model.

Caroline Thomas, Arup's Structural Engineer comments the design was challenging because so much of the internal steelwork is needed to be exposed and a lot of effort had to be put into its appearance. "There are also a vast amount of interfaces and connections to make the complicated shape. Plus there are just so many different members to integrate, it was certainly a team effort to make the model," she adds.

Once the 3D model was created it not only showed intimate details of the project, including every steel member, but it allowed the viewer to turn and twist it, to give views from every angle.

Billington Structures' Project Manager John Batty says the 3D model has ultimately speeded up construction of the project. "By creating the model the many sub-trades were sent the programme and



could see exactly where their materials would be needed before the job even started," he says. "The model also eliminated the need for hundreds of drawings."

Described by Mr Batty as one of the most complicated structural designs he's ever worked on, the Interchange has four basic elements: the

"The model eliminated the need for hundreds of drawings."

entrance; two concourses and a bridge which links into the adjacent railway station. "If you look at the bridge as being the creature's neck, the two concourses - which are elliptical aerofoils - as the swan's wings, while three cones on the central entrance create a wave humpback effect much like a bird's shoulders."

"It's swan-like," is how Mr Batty describes the unique shape of the structure. Integrating all of these features was time consuming enough, but as Mr Bassindale explains what also makes the structure's design so complicated are the amount of curves.

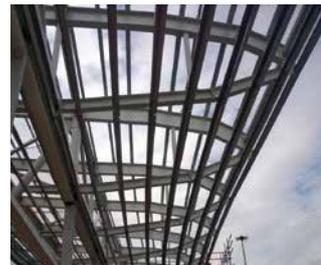
"The entrance curves in three directions," he says. "And the main concourse elliptically curves on to the bridge." Overall the Interchange is a steel framed two storey structure 155m-long and 64m wide - from the entrance to the end of the bridge - and with a maximum height of 14m.

From the town centre the Interchange is arranged so that passengers can walk into the entrance, which is situated on an intermediate level, and then either descend stairs to the ground level bus concourses, or ascend stairs or elevators to the first floor retail area and the bridge which links directly into the railway station.

Because of space constraints the two concourse wings differ in length and structure. The south wing



The building is a two-storey structure



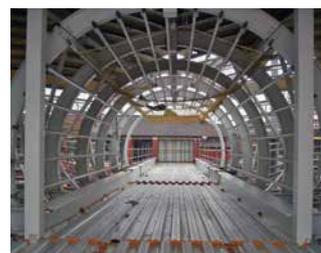
Curved beams created a challenge



13 pairs of glulam beams support the roof in part



Supporting trusses are arranged along the upper level



The bridge connects directly into the railway station



consists of eight curved grids measuring 9.6m x 8.6m, while the north wing is straight with three similar spaced grids and then a curved coach station canopy on the end.

Arranged along the concourse are five kidney-shaped retail pods - A, B and C in the south wing and D and E in the north. The two-storey pods will house retail outlets, except the one-level E pod which is a toilet block, and they vary in size with C being the largest at 8m x 23.5m.

Mr Batty says the pods differing sizes and make-up was yet another challenging aspect of the job. "We had to make sure each individual curved beam was ready for the erection process and this meant closely liaising with our sub-contracted steel benders."

Holding up the roof in part above the interconnected pods are 13 pairs of raking glulam timber beams. The inner beam of the pair is 4.5m-long, while the outer raking beam measures 7m.

Also supporting the roof and the three shoulder-like cones (formed by the geometry of the roof) are two large trusses which sit above the Interchange's main entrance. The largest truss weighs 4t and is 22m-long, while the second is 3.6t and 18m-long. Both were fabricated and lifted in to position in one piece.

Along the rest of the two concourses roof are a number of smaller supporting trusses made from 9.7m long curved tubular steel members. These support a v-shaped Delta beam made from four plate girders which will remain exposed. Once

steelwork is complete the roof will be clad with transparent air-filled cushion cladding.

Another major challenging element of the project is an architectural steel feature wall which partially wraps around pod E and interconnects with the roof. "The wall isn't integral to the structure, it purely a feature and is intended to give people something interesting to look at when they approach the Interchange from Barnsley's main shopping thoroughfare, Regent's Street," Mr Bassindale says.

The wall is 16.5m high and is curved on plan and tapered in section with a length of 15m. Fabricated from sections of cold rolled steel, it will be clad with exposed copper.

Only steel could have been used to create the desired structure.

In total Billington will install more than 27t of cold rolled steel, most of which will be used as an underlay cladding for the structure and bridge and

support the exposed copper finish.

The connecting bridge which traverses the bus parking area is fabricated from two 914mm x 419mm spine beams and seven 200mm x 100mm box section hoops and is supported by one 805mm diameter CSH column.

Mr Bassindale sums up the project as one of the most challenging and says only steel could have been used to create the desired structure.

When it opens in February 2007, Barnsley will have a bus station fit for the 21st Century and the town's on-going redevelopment and renaissance.

Cold rolled steel will clad the upper level

The 3D view aids design

Everyone who worked on the design of the Barnsley Interchange project says it wouldn't have been possible without the aid of 3D computer design. "The job is just so complex, I don't think

it could have been done on a drawing board," Mr Bassindale suggests. "Certainly not by me."

He has been with Billington Structures for more than ten years and says he joined the design department at the end of the 'drawing board era'. Since then computer design packages have become the norm and have really opened up the floodgates in terms of what can actually be produced, he adds.

"Ten years ago structural designs may have incorporated features such as curved canopies or some other similar feature, now we've really moved on and wave-forms are appearing as roofs and architects have been given far more freedom working in 3D," Mr Bassindale says. "Everything now is architecturally driven, design wise."

Caroline Thomas at Arup agrees and says designs such as the Barnsley job are certainly becoming more common before adding: "Designing the V-shaped Delta beams used on the project would have been very difficult without the aid of 3D.

As it was they were extremely challenging."

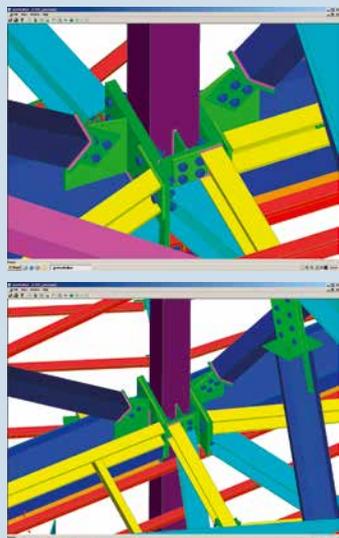
There are a number of 3D modeling packages available, but Billingtons used the StruCad detailing system from AceCad. Andrew Manze, Head of Sales for AceCad says this system offers a fast and accurate methodology and importantly allows the user to not only produce an initial 3D model, but also produce 2D CAD drawings without any extra set-up.

"These would ordinarily be used in workshops and fabrication yards," Mr Manze explains.

On the subject of what the future may hold, Mr Manze suggests that architects are now designing more complex structures safe in the knowledge that packages such as StruCad are continually evolving to allow steelwork fabricators and structural engineers the ability to model more and more complex designs.

Tom Rhys Jones, Managing Director of architects Jefferson Sheard doesn't wholly agree, but does say building design has moved on during the last few decades and projects such as the Barnsley Interchange would have been a huge headache without 3D modelling.

"We don't design complex projects just for the sake of it, but 3D does make it easier for engineers to design them," he says. "However, the bottom line is the client has got to want a particular structure and people do place more value on design nowadays."





Tekla Structures has helped us speed up all of our processes!"
David Poole, SH Structures Ltd.



"Tekla Structures has made my job more enjoyable."
David Hughes, Kendrew Metalwork Ltd.

> Open your eyes...



...See The Whole Picture With Tekla Structures!

- FOR STEEL DETAILING
- FOR CONCRETE DETAILING
- FOR STRUCTURAL DESIGN

Schedule a demonstration now!
Tel: 0113 307 1200 or email
sales.uk@tekla.com



TEKLA Structures

www.tekla.com/uk

RÖSLER[®]
finding a better way ...



Rösler is a leading manufacturer and supplier of conservation equipment that includes automatic shot blasting, painting and drying systems.

Offering modern and innovative solutions Rösler has supplied many major companies throughout the world.

- Shot Blast
- Conservation
- Painting
- Surface Preparation
- Service
- Consultation

After sales service, spare parts and maintenance programmes are also provided through our various distribution points.

Specialist in solvent to water based conversions.

For more information please contact Paul Rawlinson or Haydn Kitchen.

Rösler UK

Unity Grove, School Lane
Knowsley Business Park
Prescot, Merseyside, L34 9GT

Tel: +44 (0) 151 482 0444
Fax: +44 (0) 151 482 4400
Email: rosler@rosleruk.com
Website: www.rosleruk.com



Cloud nine for project Nimbus

A new mega-warehouse will form one of the centre pieces on a rapidly expanding business park in South Yorkshire

FACT FILE

Nimbus Park, Doncaster

Main client:

Helioslough

Architect:

Fletcher Architects

Structural engineers:

Kennedy Watts

Main contractor:

Tolent Construction

Steelwork contractor:

Conder Structures

Project Value: £45M

Steel tonnage: 2,750t

The Nimbus Park development is being constructed on a 20 hectare site situated on former farmland adjacent to the M18 near Doncaster.

A number of prestigious companies have already occupied premises on the park, including BMW, and the latest phase will see a new mega-warehouse taking shape over the coming weeks.

The site benefits from being well connected to the motorway network and rail, as the East Coast Mainline runs alongside the project. There is the potential, depending on the new warehouse occupiers' preference, to install a railway siding to serve rail freight transport.

The latest warehouse is a steel framed structure which is being erected and fabricated by Conder Structures for main contractor Tolent. Conder says it will erect 2,750t of structural steelwork for the 77,600m² warehousing and distribution complex.

The light grey painted steelwork will eventually create a five-span portal framed facility with dimensions of 200m x 338m and offering 3,374m² of office accommodation on three levels. Rising to 15.5m at the eaves, the structure will incorporate features as 92 dock-level entry doors, plus car parking for 610 vehicles.

The steel work erection involves a basic 10 week schedule. In that time Conder will erect standard column sizes of 838mm x 292mm x 176mm UBs on a grid plan giving 40m wide spans. Meanwhile, the beams being used are predominantly 20m-long 610mm x 229mm x 101mm UBs.

Prior to any steel being erected, Tolent had to bring foundation specialist Roger Bullivant on site to install 20,650 piles to firm up the poor sandy ground conditions. An average of 460 columns, each measuring 6m, were installed each day during May. The columns were created on a grid layout with 2m spacings, underneath a floor slab with a loading of 60kN/m² and at 1.3m centres beneath the foundations to receive the warehouse's steel frame structure.

The complex will have 113 trailer parking spaces, a gatehouse controlled entrance, HGV vehicle wash and refueling facilities.

Because of its size and number of features the project developers Helioslough has appointed

The light grey painted steel work will eventually create a five-span portal framed facility with dimensions of 200m x 338m

international property consultants King Sturge as joint lettings agents.

Richard Harris, Commercial Development Partner at King

Sturge said: "This exciting, strategic development offers a major opportunity for an occupier to create a large international storage and distribution centre in a central location within the UK, while contributing to the regeneration of this part of South Yorkshire."



Nimbus Park is part of the overall regeneration of South Yorkshire

F BEAM 2006[®]

S O F T W A R E

Order your **FREE** copy from 18th September!

Great new time & cost-saving features

- Improved Project Optimisation with Beam Wizard™
- Multiple Beam Project Facility
- Two-way Link to RAM Structural System
- Easy Export of Data in DXF and CSV Formats



"FBEAM is an extremely useful aid to cellular beam design and its new features create real time-saving benefits."

Graham Pocock, Structural Engineer, WSP Cantor Seinuk



Call: **0845 094 2530**

Email: design@fabsec.co.uk

Visit: www.fabsec.co.uk

The SCI Annual Dinner



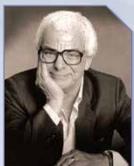
16th November 2006

The Landmark London, 222 Marylebone Road, London NW1 6JQ

SCI's prestigious Annual Dinner is always an excellent opportunity for networking while enjoying congenial company, savouring good wine and exquisite food.

This year will be no exception and SCI will welcome you and your guests at The Landmark London, a venue that ranks amongst the finest of the capital. To make this event memorable SCI has invited Barry Cryer, whose career and outstanding sense of humour will undoubtedly entertain you, as guest speaker.

One of SCI's skills is its ability to bring together key players within the supply chain. As such, its Annual Dinner gathers professionals including developers, architects, engineers, general and steelwork contractors, representatives of industry bodies and government as well as senior academics.



The Guest Speaker

Barry Cryer, OBE. Probably the only comic to have written gags for Bob Hope, Tommy Cooper and Richard Pryor. Barry is much loved in his own right for: "I'm sorry I Haven't A Clue" and "Just A Minute".

SCI's Annual dinner will start at 19:00 with a pre-dinner drinks reception in the Drawing Room, followed by dinner in the Ball Room.

Dress Code: Black Tie

Please complete the booking form overleaf to purchase tickets.
Booking Deadline: 31st October 2006

20% Discount for tickets purchased before 30th September 2006

Increase productivity • Improve quality • Minimise costs



VERTEX BD
building
design software

Productivity software for home builders

Vertex BD is a highly flexible CAD software platform that will revolutionise the way your company uses your architectural drawings and models. Vertex BD adapts to your specific way of building.

Frame your walls with ease based on user defined framing rules. Specialised tools designed to work specifically with roof and floor components make it easy to handle joists, rafters, trusses, or even floor/roof cassettes. Vertex makes all manufacturing data available for integration with automated equipment.

Vertex Systems UK

Windsor House, Cornwall Road
Harrogate, HG1 2PW, UK
tel + 44 1423 500 211, fax +44 1423 500 212
email: infouk@vertex.fi, <http://uk.vertex.fi>



SCI marks 20 successful years

The Steel Construction Institute marked its 20th anniversary in June with a celebratory lunch held at the newly completed Ascot racecourse building. NSC reports.



The new Ascot Grandstand



Inside the stand

Over 180 guests heard presentations from guest speakers associated with the SCI since its early days, as well as a specially made video presentation involving key figures from the organisation's history and presenting SCI plans for the future.

Guests were also treated to a tour of the Ascot Racecourse building which has been hailed as marking a new standard in racetrack facilities. SCI Chairman Peter Head welcomed guests, reminding them of SCI's small beginnings when the £500,000 budget was guaranteed from British Steel for only three years. SCI Director Graham Owens remembered that the first year saw six courses

"We believe we have made a very important contribution to a sector that is truly world class."

organised and 37 members recruited. By 1990 it was up to 263 members and the SCI's reputation for

producing practical, quality information of value to the constructional steelwork sector was quickly established.

Professor Patrick Dowling recalled how he had explained his idea for the SCI to British Steel Chairman Sir Ian McGregor. Corus Construction & Industrial General Manager Alan Todd told guests of the high regard in which SCI was held and pledged continued support to SCI and its objectives.

Industry links were strengthened with the establishing of the Steel Construction Industry Forum in 1992 bringing closer collaboration between SCI, British Steel now Corus, and the British Constructional Steelwork Association.

More diversification followed when interest grew in the environmental aspects of building design, and work was undertaken to scotch the myth that the mass of reinforced concrete buildings provided significant thermal cushioning.

The year 2000 produced several milestones; over 500 companies had become SCI members, 22 publications were produced and 126 courses were run in one year. Significant investment in information and communications technology was made and work on the thermal performance of buildings intensified. Work was also carried on acoustic performance of steel framed buildings, particularly light gauge framed buildings. The

dynamic response of lightweight floors was another area of research.

SCI always recognised the necessity of changes and had to be ready to change themselves. As such, in 2002 SCI grew its portfolio of work on sustainability, product development, best practice in construction and Information and Communication Technology (ICT). This resulted in the launch of Steelbiz electronic information system which has put all SCI's formal knowledge on the web.

SCI has a well defined overall business strategy, with specific initiatives on:

- Developing core business,
- Exporting skills including a joint venture with CTICM (the Steel Alliance).
- Further investment in sustainability
- ICT

With a new brand image, SCI will be focussing on five marketing directions:

- SCI membership, acknowledging that members remain core to SCI business.
- SCI information, recognising the wide range of both paper based information, such as publications and codes and standards, and electronic information such as Steelbiz and the newly launched Access Steel as being key deliverables to the sector.
- SCI innovation and design, recognising that every sector has to improve and innovate if it is to thrive in a changing world and that SCI has the wide range of skills that can assist the sector in this activity.
- SCI Assessment; within a performance driven construction industry, there will be an increasing need for formal endorsement which SCI will address by providing independent technical assessment of products, processes and services.
- SCI ICT recognises that work in this area is now approaching one third of its turnover and is developing a growing reputation, both inside and outside the construction industry.

SCI has all the ingredients to lead change and improvement in an outstanding industry, supported by our hardworking staff, our members and our sponsors.

Dr Owens concluded: "So, we have thrived for twenty years, in good times and bad. We believe we have made a very important contribution to a sector that is truly world class. We are very grateful to all our sponsors, especially Corus."



Professor Patrick Dowling



Speaker Dr Owens



USFB™

ULTRA SHALLOW FLOOR BEAM

Project Bristol Paediatric Unit

Engineer Faber Maunsell

Steelwork Contractor Hayes Engineering Ltd

Span 7.2m Floor Depth Limit 320mm

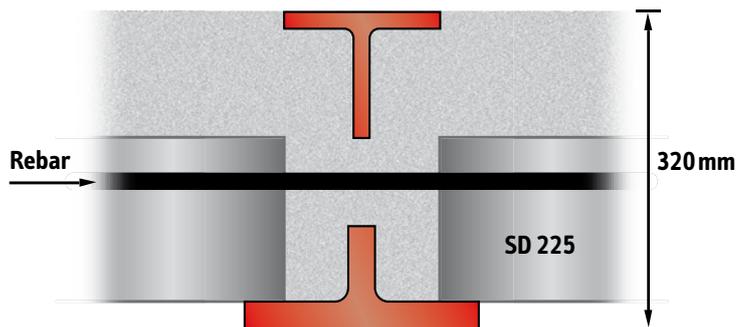
Load 7.5kNm² + heavy point load

The onerous loading and a need to keep the floor depth to only 320mm lead the engineer to believe that concrete was the only solution. The USFB™ met every criteria for design, cost and lead-time.



USFB™ SOLUTION - USFB™ 320 x 216.5kg/m

Top Tee
305 x 305 x 198kg/m



Bottom Tee
356 x 406 x 235kg/m

- Depths from 160mm to date
- Available in 1mm increments
- Spans up to 12m to date
- Pre-cambers at no extra cost
- Steel ex-stock, any length, no minimum quantity
- In-situ or pre-cast concrete

FREE USFB™ DESIGN SERVICE

USFB™ designs are carried out by Westok Advisory Engineers using SCI software. To request designs or a meeting with one of our regional Advisory Engineers, please contact us.



Westok Limited, Horbury Junction Industrial Estate
Horbury Junction, Wakefield, West Yorkshire WF4 5ER

Tel: 01924 264121 Fax: 01924 280030

Email: info@westok.co.uk

www.westok.co.uk

Building envelope developments at the SCI

Research suggests that fears regarding the structural performance of deeper built-up cladding systems are unfounded, says Dr Martin Heywood, Manager Construction Technology at the Steel Construction Institute, in this review of work underway relating to the recent Part L changes.

Changes to Part L of the Building Regulations (The Conservation of Fuel and Power), together with rapidly increasing energy prices, have led to a change of emphasis within the design process for steel-framed buildings to the point where ensuring structural safety and efficiency is no longer the most onerous aspect of the design process. Indeed, obtaining approval for the structure is now a routine occurrence for many common forms of steel structure and the focus of Building Regulations compliance has now shifted to the building envelope and, in particular, its energy performance. This change of emphasis is reflected in the nature of the research projects currently in progress at Steel Construction Institute (SCI), as illustrated by this paper

Part L Compliance

Until recently, compliance with Part L of the Building Regulations was defined in terms of the thermal transmittance (U value) of individual building elements and the air tightness of the building. Traditionally, U values were seen as the primary means of improving thermal performance, resulting in a gradual increase in insulation thickness over sev-

eral years to meet the ever stricter requirements. Limits on air leakage were also included in the Approved Documents, but were not strictly enforced in practice. By contrast, the 2006 revision of Part L requires designers to consider the performance of the whole building, rather than the thermal properties of the individual elements. Compliance with the Regulations must be demonstrated using a national whole building calculation model; for non domestic buildings the Simplified Building Energy Model (SBEM) or approved alternative should be used.

The SCI is currently engaged in several projects relating to the 2006 amendment to Part L of the Building Regulations and its impact on various types of building. This work combines desk studies using SBEM, which aim to identify the aspects of building design that have the greatest impact on the building's energy performance, with an assessment of real buildings through the evaluation of test data. Although much of the research is still in its infancy, a few key issues have already been identified, including the importance of good interface detailing in achieving airtightness and the need for good workmanship on site.

Structural implications

Changes to the Building Regulations over recent years have significantly reduced the maximum permissible elemental U values resulting in a considerable increase in insulation thickness. This has had important implications for the structural performance of the cladding system and its relationship with other structural elements. In particular, concerns have been expressed in the past regarding the ability of deeper built-up roof cladding systems to safely transmit the down-slope component of the gravity loads to the supporting purlins and to adequately restrain the purlins against lateral-torsional buckling in the case of wind uplift. Both of these issues have been comprehensively investigated by the SCI as part of a 'Partners in Innovation' project jointly funded by the DTI, Corus Strip Products UK, the MCRMA and EPIC. In addition, the SCI and Corus Colors have recently undertaken a series of tests to support the

Air pressure testing





Built-up cladding panel undergoing structural tests

existing analytical evidence and provide much-needed data on the interaction between cladding components (see Figure 1).

In general, the results obtained from the tests and analytical work suggest that fears regarding the structural performance of deeper built-up cladding systems are unfounded. Despite the increase in depth, there is evidence of good interaction between the outer sheet and liner under gravity and uplift loading, providing a safe load path for down-slope loads and restraint to the purlins. However, the structural performance of the cladding cannot be taken for granted and must be afforded the same degree of design as any other element in the building structure. In the case of built-up cladding systems, this means the correct specification of the two profiled sheets, the spacer system and supporting secondary steelwork

Achieving an air-tight envelope

Many factors affect the air tightness of a building, including the choice of cladding products, detailing at joints and interfaces, the specification and erection of the supporting steelwork and, of course, the installation of the cladding itself. Research conducted by the SCI suggests that an important potential source of air leakage through the building envelope is excessive sag in the supporting purlins or side rails, preventing the cladding installation contractor from fixing the cladding panels or sheets correctly and achieving the necessary airtight seal.

Poor seating of the cladding on the purlin flange can also have implications for the structural integrity and non-fragility of the building envelope.

The SCI has played a key role in assembling a team of technical experts from across the range of disciplines involved in the specification and installation of the building envelope and has proposed limits on purlin and side rail sag suitable for built-up cladding and insulated panels. These suggested values, together with practical guidance for specifiers and installers, will be published shortly in the forthcoming SCI publication SCI-P-346 Good practice guidance for cladding of industrial buildings.

Conclusions

The latest changes to Part L of the Building Regulations are likely to have a significant impact on the design and construction of all buildings in England and Wales, with building designers having to consider the performance of the whole building, rather than individual elements of the structure and envelope. With these changes, the role of the structural engineer is also likely to expand to include a greater consideration of the building envelope and the steelwork that supports it. As with all areas of structural steelwork design, the SCI is actively involved in research and development activities relating to the building envelope and will be producing detailed guidance over the coming year.

SEPTEMBER

06: Steel: The Show

This new series of seminars is being presented around the country at various locations. These morning seminars include discussions on vibration, Corefast, shallow floor construction, stadia, bearing piles, fire engineering and sustainability.

location: Chester
cost: free



07: Preparation for Eurocodes

Preparation for engineers in the use of Eurocode 3 covering the documentation needed for design, the design principles for steel and the major changes to present practice.

location: Bristol
cost: SCI Member £220 + VAT
Non Member £280 + VAT



13: Preparation of Eurocodes

See September 07 for details
cost: SCI Member £220 + VAT
Non Member £280 + VAT



19: Disproportionate collapse and the revised building regulations

Introducing limit state design and explaining methods employed by BS 5950-1:2000 for the design of members in bending, compression, tension and connections using worked examples.

location: London
cost: SCI Member £220 + VAT
Non Member £280 + VAT



19: Fire engineering workshop

These courses are centred on how to design steel buildings to achieve 30 minutes' fire resistance without applied fire protection and how to use the new Cardington fire guidance to eliminate fire protection off secondary beams. The course is based on formal discussions and worked examples. The all-day workshop also includes the use of a computer model for frame analysis.

location: Manchester
cost: free (limited places)



20: Barnshaw Section Benders Open Day

www.barnshaws.com

The tour will involve a short presentation giving the company overview, and will enable visitors to view curving of various sections for architectural and structural projects that is common place within the construction industry. Barnshaws also have large plate bending and rolling facilities that can be viewed.

location: West Midlands
cost: free
contact: sylvia.adams@barnshaws.com



26: Overview of new European standards for steel construction

www.steelconstruction.org

The aim of this seminar is to prepare engineers for the introduction of the forthcoming European steel standards that will be introduced over the next few years. This seminar gives a general overview of the Eurocodes with more in-depth presentations on the loading (EN 1990 and EN 1991) and the steel design standard, Eurocode 3. The seminar also covers the new Execution standard for steel structures; BS EN 1090-2, which will eventually replace BS 5950-2 and an overview of CE Marking and the harmonised standard for fabricated steelwork.

location: London
cost: Member £60.00 + VAT
Non Member £80.00 + VAT
contact: gillian.mitchell@steelconstruction.org



27: Excel for engineers

Techniques will be shown for creating useful spreadsheets that engineers can use time and again including automated calculations, manipulations of data, creating charts and graphs to suit the level of user's existing capabilities.

location: Ascot
cost: SCI Member £220 + VAT
Non Member £280 + VAT



27: Hospitals seminar

Guidance on the design and construction of hospitals and healthcare buildings. The seminar is developed around real case examples and will introduce the latest methods of vibration design.

location: Durham
cost: free



OCTOBER

03: Disproportionate collapse and the revised building regulations

See September 19 for details.

location: Birmingham
cost: SCI Member £220 + VAT
Non Member £280 + VAT



04: Edge protection on steel frame structures seminar

www.easi-edge.co.uk

Offering advice to the industry on proprietary edge protection solutions including ground level assembly of edge protection; stair protection and void enclosure; loading bay enclosure; fall arrest for unloading of trailers; and free standing pedestrian and directional solutions. Examples will be given on safe installation procedures, reducing exposure to the hazards of installing and dismantling edge protection at height.

location: Tuxford
cost: free
contact: pbarnes@easi-edge.co.uk



04: Preparation for Eurocodes

See September 07 for details.

location: Croydon
cost: SCI Member £220 + VAT
Non Member £280 + VAT



04: Angle Ring & SCI design of curved steel seminar & factory tour

www.anglerring.com

This popular design course run by the SCI contains worked examples from their publication P281 Design of Curved Steel (a copy of which is included in the course). A tour of Angle Ring's extensive steel bending facility is included, giving an insight into the methods used to shape and form steel sections, bar, tube and plate.

location: West Midlands
cost: £40.00 + VAT
contact: p.middleton@anglerring.com



05: Hospitals seminar

See September 27 for details.

location: London
cost: free



NOVEMBER

10: SCI Annual Dinner

Guest speaker: Barry Cyer. See ad on p33 or enclosed flyer for full details

location: Landmark London, 222 Marylebone Road, London
cost: £150 + VAT. (£120 + VAT if booked before September

30th)

contact: l.chamberlain@steel-sci.com



CONTACTS



Organised by **Corus Construction & Industrial**
Contact: www.corusevents.com
or telephone: (01724) 405060
or email: events@corusgroup.com



Organised by **The Steel Construction Institute**
Contact: www.steel-sci.org/courses
or telephone: (01344) 636500



Organised by **The British Constructional Steelwork Association**
Contact: see individual event details

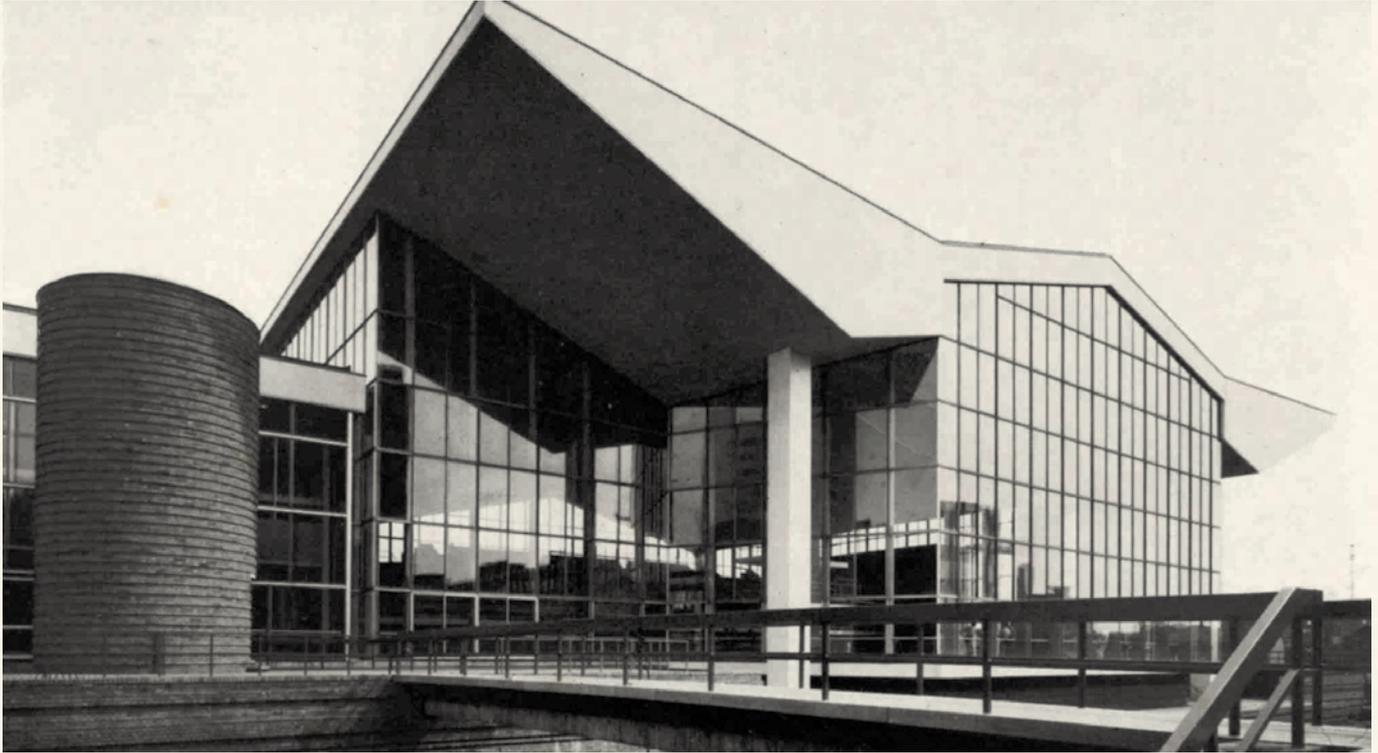


There's more to structural sections from Corus than meets the eye. Our UK rolling programme ensures unrivalled product availability and our advisory service is always on hand to help with the effective application of steel in construction.

The things you can't see make the difference.

Building with Steel

The new Coventry Swimming Baths



These splendid new swimming baths are now in full operation: a number of interesting design features are incorporated in the structure, one being the 'wish bone' system which permits full deflection of the roof structure without transferring any load to the vertical glazing.

The new baths replace those destroyed by bombing in 1940 and have been designed to fit into the general pattern of the new modern city centre, which includes buildings of advanced design, the adjacent Lanchester College of Technology being a notable example. In addition to the normal layout of a swimming bath this Centre provides a first class social environment in which it differs drastically from earlier baths. For instance, gardens and sun bathing areas are attractive features and amenities such as a restaurant, games room and spectators' galleries are included.

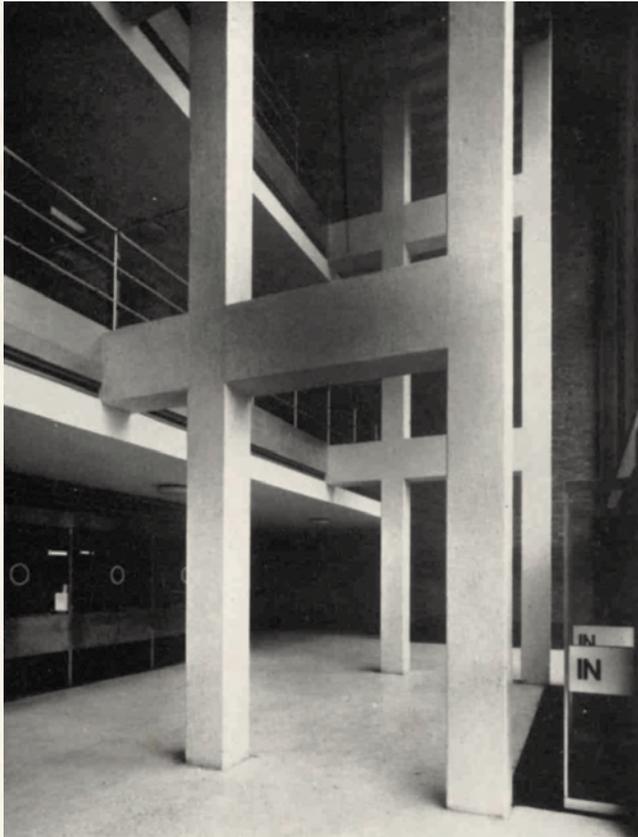
The building is in two parts, one housing the main swimming pool and adjoining, another containing a restaurant and various rooms. Each has a steelwork superstructure and roof. A bed of rock some 16 feet below the site has been used to support the basement floor. The mass foundations under the stanchions supporting the roof structure over the main pool are also taken down to below ground, while elsewhere the building is supported on 17-in. diameter bored piles.

The whole roof (165 ft by 196 ft) of the main pool section is supported on four stanchions on a 155-ft by 112-ft regular grid. Between each pair of stanchions 155-ft lattice girders straddle the pool, and trusses, generally at 16-ft centres, span the 112-ft between the lattice girders and cantilever out from the girders a further 42 feet at each end.

The roof covering is supported at 8-ft centres on purlin frames between the trusses. Framing for roof lanterns and internal lay lights is made integral with the purlin frames and at both north and south ends, the purlin frames are extended beyond the end trusses to carry fascia framing. The four stanchions, two lattice girders and two end trusses are designed as portal frames in two directions and constitute a highly indeterminate but rigid structure. When analysing the stresses of this structure the fabricator used a computer. The stanchions, each weighing about 22 tons, are compound sections composed of two 24 in. by 9 in. by 94 lb universal beams with two flange plates riveted to them.

In the case of the two 45 ton main lattice girders the top and bottom booms are of high yield stress steel and consist of one 89 lb rolled steel joist with two 14 in. flange plates of varying thickness: the internal members are of mild steel. To facilitate erection they were delivered piece-small and framed-up on the ground at site, in the vertical position, all site joints being made with high strength friction grip bolts.

The main trusses between the lattice girders were shop welded in halves and the centre splices then site welded. Each half truss is a parallel flanged lattice girder approximately 11 ft deep and 56 ft long in plan, set to give a slope of a little less than 1 in 2 to that part of the roof. Springing from the same shoe level as the main trusses are the 42 ft cantilever trusses. These are arranged so that the rafters slope inwards from the cantilever end at about 1 in 30 and then pass over the tops of the main lattice girders to meet the rafters of the main



Left Spaciousness, cleanliness and maximum use of natural lighting are outstanding features in the design of this building. The illustration shows striking roof design over the main pool section.

Top left: Looking across the main pool towards one of the smaller pools.

Above The entrance hall.

trusses about 14 ft beyond the lattice girders. Gutters 2 ft 6 in. wide are formed at this junction. The roof structure is completely braced against the effects of wind loading.

Except for seven stretches of wide lantern lights between the main trusses the roof is covered with aluminium decking on 1 in. thick cork insulation and three layers of roofing felt. An acoustic ceiling is provided by perforated aluminium strip with a rock wool backing.

The roof steelwork for the small pools section consists of trusses 4 ft deep at the shoe, with rafters sloping at 1-in-24 from the shoe to ridge so that surface water drains into the eaves and valley gutters. These trusses are 65 ft span over the small pools, 32 ft span over the games deck and 48 ft span over the entrance block and generally are at 16 ft centres. At the south side they cantilever 8 ft beyond the stanchion line to carry fascia frames. Purlin frames similar to those in the main pool section carry the roof decking. The underside of the roof steelwork is 28 ft 6 in. above the poolside for both pools: interposed over the teaching pool is the restaurant floor which is carried on 33 in. deep universal beams spanning 40 ft between two plate girders of 56 ft span.

On the east side the glass walls of the two sections are 3 ft apart and linked by a transverse glass panel set in 4 ft from the south elevation in which the glass walls to both blocks are in line. An expansion joint is incorporated into the details at the junction of the two blocks.

NEW!
Deckspan
V6.0
with fibre reinforced concrete

Ribdeck 80

LONGER
spans...less cost

If you want to save costs choose Ribdeck 80

Ribdeck 80 gives you classic deck strength in 4.5metre spans.

It simply means you save cost.

- ~ Up to 20% less steelwork
- ~ Shallow floors
- ~ Frames go up quicker
- ~ Quicker release of capital
- ~ Installation service
- ~ Technical & design support

And the other big advantage to you is; it comes from the UK's No 1 in steel decking.

For more details on Ribdeck 80 and all our products and services, visit rlsd.com



Richard Lees Steel Decking Ltd

Tel: +44 (0) 1335 300 999

Email: rlsd.decks@skanska.co.uk

www.rlsd.com

RICHARD LEES STEEL DECKING

New and Revised Codes and Standards

(from BSI Updates July and August 2006)

BS EN PUBLICATIONS

The following are British Standard implementations of the English language versions of European Standards (ENs). BSI has an obligation to publish all ENs and to withdraw any conflicting British Standards or parts of British Standard. This has led to a series of standards, BS ENs using the EN number.

Note: The date referenced in the identifier is the date of the European standard.

BS EN 1991:-

Eurocode 1. Actions on structures

BS EN 1991-4:2006

Silos and tanks

Supersedes DD ENV 1991-4:1996

BS EN 10210:-

Hot finished structural hollow sections of non-alloy and fine grain steels

BS EN 10210-1:2006

Technical delivery requirements

Supersedes BS EN 10210-1:1994

BS EN 10210-2:2006

Tolerances, dimensions and sectional properties

Supersedes BS EN 10210-2:1997

BS EN 10219:-

Cold formed welded structural hollow sections of non-alloy and fine grain steels

BS EN 10219-1:2006

Technical delivery requirements

Supersedes BS EN 10219-1:1997

BS EN 10219-2:2006

Tolerances, dimensions and sectional properties

Supersedes BS EN 10219-2:1997

BS EN ISO 10684:2004

Fasteners. Hot dip galvanized coatings

No current standard is superseded

BS EN ISO 18276:2006

Welding consumables. Tubular cored electrodes for gas-shielded and non-gas-shielded metal arc welding of high-strength steels. Classification.

Supersedes BS EN 12535:2000

BRITISH STANDARDS WITHDRAWN

BS EN 12535:2000

Welding consumables. Tubular cored electrodes for gas shielded metal arc welding of high strength

steels. Classification.

Superseded by

BS EN ISO 18276:2006

AMENDMENTS TO BRITISH STANDARDS

BS 5400

Steel, concrete and composite bridges

BS 5400-3:2000

Code of practice for design of steel bridges

Amendment 1 AMD 16480

Also incorporates Corrigendum 1

Corrigendum 2 AMD 16480

Also incorporates Amendment 1 and Corrigendum 1

DRAFT BRITISH STANDARDS FOR PUBLIC COMMENT

05/30128176 DC

National Annex to BS EN 1994-2

Eurocode 4. Design of composite steel and concrete structures.

Part 2: General rules and rules for bridges.

06/30128336 DC

UK National Annex to

BS EN 1991-1-5:2003

General actions. Thermal actions

06/30128340 DC

BS 1991-2.

Draft UK National Annex to

Eurocode 1. Actions on structures.

Part 2. Traffic loads on bridges

DOCUMENTS NOT ISSUED AS DPCs

BS EN 1993-1-5

Plated structural elements

BS EN 1993-1—11

Design of structures with tension components

BS EN 1993-2

Steel bridges

The development process for these standards, from the BS EN 1993 series overseen by committee B/525/31, is over and they will be published shortly.



Buy any BSI Standard from the SCI at 20% discount

Contact Publications Sales:

T: 01344 872775 F: 01344 622944

Email: publications@steel-sci.com

Advisory Desk

AD 303

Disproportionate collapse regulations in Scotland

The purpose of this AD note is to highlight the existence of technical advice produced by the Scottish Building Standards Agency (SBSA) that should take precedence over the advice given in AD 297 for use in Scotland. AD 297 advised engineers how they might account for the differences between the disproportionate collapse

regulations in England and Wales, Scotland and Northern Ireland.

The technical advice produced by the SBSA is available from their website (*) and states that:

“Disproportionate collapse does not normally apply to buildings having less than 5 storeys but designers should consider if their building is one where there might

be a risk of disproportionate collapse (e.g. grandstands, types of educational buildings, etc). If they consider the building to be at risk then the guidance in the Approved Document A – Structure 2004 Edition published by the Office of the Deputy Prime Minister gives one means of satisfying the Standard 1.2 in respect of such buildings.”

* www.sbsa.gov.uk/pdfs/sbsaemailupdate4.pdf

Contact: Andrew Way

Email: a.way@steel-sci.com

Tel: 01344 623345

For SCI publications, please contact Publication Sales: Tel: (Direct) 01344 636505 Fax: 01344 636570

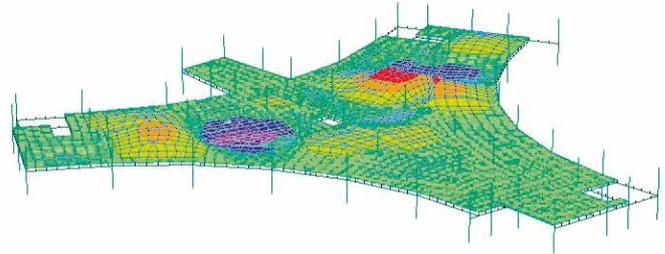
Email: publications@steel-sci.com Website: www.shop.steelbiz.org The Steel Construction Institute, Silwood Park, Ascot SL5 7QN

New publication on vibrations of floors dispels the misconception that steel framed floors have difficulty in achieving serviceability performance requirements.

Design guide on the vibration of floors popularly referred to as P076, was published by The Steel Construction Institute in 1989. This first publication on the subject provided design guidance on the vibration of office floors caused by internal pedestrian traffic. Since then, a common misconception has arisen that steel-framed floors sometimes have difficulty in achieving the serviceability requirements given in the appropriate performance Standards BS 6472 and HTM2045.

Through a comprehensive series of vibration tests, which have been undertaken on a variety of building types over the last nine years, it has been shown that all of the floors tested easily satisfied the appropriate performance requirements for office, laboratory and operating theatre environments (*New Steel Construction*, June 2005 and November /December 2005). However, the results showed that P076 was very conservative.

Through extensive back-analysis of the measurements made on these floors, SCI will shortly be unveiling a revision to P076, *Design guide on the vibration of floors – Second Edition*, which will remove the conservatism that presently exists



and provide guidance on other types of floor that were not covered in the original publication.

The new publication will provide design guidance for all floor and building types which use a structural steel frame. It will cover the human perception of vibration and the criteria by which it is assessed. The concepts of floor response, including the primary and secondary beam mode shapes, and the different types of excitation produced by occupant-induced vibration will be explained. A simple design procedure will be set out which shows how to calculate the floor acceleration, weight it to reflect human perception, and compare it with the acceptance levels in the current performance Standards.

The revised edition has been prepared by Dr Stephen Hicks and Paul Devine, both of The Steel Construction Institute and Professor Aleksandar Pavic of Sheffield University. It will be available in early October.

For further information and ordering please contact Publication Sales:
Tel (Direct): 01344 636505, Fax: 01344 636570 Email: publications@steel-sci.com

RAINHAM STEEL

COLD FORMED & HOT FINISHED

structural hollow sections

**Circular, Square
& Rectangular**

GRADE S355 J2H



RAINHAM STEEL COMPANY LIMITED

phone: 01708 522311 fax: 01708 559024 e-mail: sales@rainhamsteel.co.uk

Bolton office - phone: 01204 847089 fax: 01204 848248

www.rainhamsteel.co.uk



The British Construction Steelwork Association Ltd

You can find out email and website addresses for all these companies at www.steelconstruction.org

BCSA is the national organisation for the steel construction industry; its member companies undertake the design, fabrication and erection for all forms of construction in building and civil engineering. Associate Members are those principal companies involved in the purchase, design or supply of components, materials, services etc, related to the industry. Corporate Members are clients, professional offices, educational establishments etc, which support the development of national specifications, health and safety, quality, fabrication and erection techniques, overall industry efficiency and good practice. The principal objectives of the association are to promote the use of structural steelwork; to assist specifiers and clients; to ensure that the capabilities and activities of the industry are widely understood; and to provide members with professional services in technical, commercial and quality assurance matters.

Details of BCSA Membership and services are available from: Gillian Mitchell MBE, Deputy Director General, British Constructional Steelwork Association Ltd, 4 Whitehall Court, Westminster, London SW1A 2ES. Tel 020 7839 8566 Fax 020 7976 1634

ACL STRUCTURES LTD (E F H M 4)
Holland Way Ind. Est., Blandford, Dorset DT11 7TA
Tel 01258 456051 Fax 01258 450566

A & J FABTECH LTD
Walkley Works, Walkley Lane,
Heckmondwike WF16 0PH
Tel 01924 402151 Fax 01924 410227

ASA STEEL STRUCTURES LTD
Brick Kiln Lane, Parkhouse Ind. Est. West,
Newcastle-under-Lyme, Staffs ST5 7EF
Tel 01782 566366 Fax 01782 564785

AWF STEEL LTD
21 Lenziemill Rd, Lenziemill,
Cumbarnauld G67 2RL
Tel 01236 457960 Fax 01236 452250

ADEY STEEL LTD
Falcon Industrial Park, Meadow Lane,
Loughborough, Leics LE11 1HL
Tel 01509 556677 Fax 01509 828639

ADSTONE CONSTRUCTION LTD
Adstone House, Wassage Way, Hampton Lovett
Industrial Estate, Droitwich WR9 9NX
Tel 01905 794561 Fax 01905 794040

ALLERTON ENGINEERING LTD (B 5* Q3)
Allerton House, Thurston Road,
Northallerton, N. Yorkshire DL6 2NA
Tel 01609 774471 Fax 01609 780364

ALLOTT BROS & LEIGH
Fullerton Rd, The Ickles,
Rotherham S60 1DJ
Tel 01709 538000 Fax 01709 538004

ALLSLADE PLC
Dundas Lane, Portsmouth, Hants PO3 5SD
Tel 023 9266 7531 Fax 023 9267 9818

THE ANGLE RING CO LTD
Bloomfield Road, Tipton DY4 9EH
Tel 0121-557 7241 Fax 0121-522 4555

APEX STEEL STRUCTURES LTD
Kings Close, Charfleets Industrial Estate,
Canvey Island, Essex SS8 0QZ
Tel 01268 660 828 Fax 01268 660 829

ARROMAX STRUCTURES LTD (Q4)
Langwith Junction, Mansfield, Notts NG20 9RN
Tel 01623 747466 Fax 01623 748197

ASME ENGINEERING LTD
Asme House, 788 Kenton Lane,
Harrow, Middlesex HA3 6AG
Tel 0208 954 0028 Fax 0208 954 0036

ATLAS WARD STRUCTURES LTD (A 0* Q1)
Sherburn, Malton, N. Yorkshire YO17 8PZ
Tel 01944 710421 Fax 01944 710512

ATLASCO CONSTRUCTIONAL ENGINEERS LTD
Rowhurst Industrial Estate, Apedale, Chesterton,
Newcastle-U-Lyme ST5 6BD
Tel 01782 564711 Fax 01782 564591

B D STRUCTURES LTD (E F H 5*)
Westthornton Ind Est, James St,
Westthornton, Lancs, BL5 3QR
Tel 01942 817770 Fax 01942 810438

BHC LTD
Edinburgh Road, Carmwath, Lanarkshire ML11 8LG
Tel 01555 840006 Fax 01555 840036

A. C. BACON ENGINEERING LTD (E F H 6)
Norwich Rd, Hingham, Norwich NR9 4LS
Tel 01953 850611 Fax 01953 851445

BALLYKINE STRUCTURAL ENGINEERS LTD (E F H J 4 Q2)
51 Lisburn Rd, Ballynahinch, Co Down BT24 8TT
Tel 028 9756 2560 Fax 028 9756 2751

BARNSHAW SECTION BENDERS LTD
Structural Division, Anchor Lane, Coseley,
Bilston, West Midlands WV14 9NE
Tel 01902 880848 Fax 01902 880125

BARRETT STEEL BUILDINGS LTD (E F H 1 Q1)
Barrett Court, Cutler Heights Lane,
Dudley Hill, Bradford BD4 9HZ
Tel 01274 266800 Fax 01274 266860

BARRETT'S OF ASPLEY LTD
North Common Farm, Woburn Road
Lidlington, Bedfordshire MK43 0NN
Tel 01525 280136 Fax 01525 280137

BILLINGTON STRUCTURES LTD (A 0 Q1)
Barnsley Road, Wombwell S73 8DS
Tel 01226 340666 Fax 01226 755947

BILLINGTON STRUCTURES LTD (A 0 Q1)
456 Badminton Rd, Yate, Bristol BS37 5HY
Tel 01454 318181 Fax 01454 318231

BISON STRUCTURES LTD (D E F H 4 Q1)
Londan Rd, Tetbury, Glouce GL8 8HH
Tel 01666 502792 Fax 01666 504246

BONE STEEL LTD
P.O. Box 9300, Wishaw, Lanarkshire ML2 0YA
Tel 01698 375000 Fax 01698 372727

F J BOOTH & PARTNERS LTD
Dockside Road, Middlesbrough, Cleveland TS3 8AT
Tel 01642 241581 Fax 01642 223398

BORDER STEELWORK STRUCTURES LTD (C E F H J N 5)
Winchester House, 58 Warwick Rd,
Carlisle CA1 1DR
Tel 01228 548744 Fax 01228 511073

BOURNE STEEL LTD (A 0 Q2)
St Clements House, St Clements Rd,
Poole, Dorset BH12 4GR
Tel 01202 746666 Fax 01202 732002

W.S. BRITLAND & CO. LTD (Q2)
Tilmanstone Works, Pike Road, Eythorne,
Dover CT15 4NB
Tel 01304 831583 Fax 01304 831983

BRITON FABRICATORS LTD (B 6 Q4)
Watnall Road, Hucknall, Notts NG15 6EP
Tel 0115 963 2901 Fax 0115 968 0335

BROWNE STRUCTURES LTD
Queens Drive, Newhall, Swadincote,
Derbyshire DE11 0EG
Tel 01283 212720 Fax 01283 215033

BUTTERLEY LTD (B 3* Q4)
Ripley, Derby DE5 3BQ
Tel 01773 573573 Fax 01773 749898

CAIRNHILL STRUCTURES LTD (C F H J L M 5* Q4)
Sun Works, Waverley Street, Coatbridge,
Lanarkshire ML5 2BE
Tel 01236 449393 Fax 01236 428328

CAUNTON ENGINEERING LTD (Q1)
Moorgreen Ind. Park, Moorgreen,
Nottingham NG16 3QU
Tel 01773 531111 Fax 01773 532020

CHIEFTAIN CONTRACTS LTD
Antonie Works, Broomhill Road,
Bonnybridge FK4 2AL
Tel 01324 812911 Fax 01324 814927

CLEVELAND BRIDGE UK LTD (A 0* Q3)
Cleveland House, Yarm Rd, Darlington,
Co Durham DL1 4DE
Tel 01325 381188 Fax 01325 382320

COMPASS ENGINEERING LTD (C E F K 4)
Whaley Road, Barugh, Barnsley S75 1HT
Tel 01226 298388 Fax 01226 263221

CONDER STRUCTURES LTD (Q2)
Wellington Rd, Burton-on-Trent, Staffs DE14 2AA
Tel 01283 545377 Fax 01283 530483

LEONARD COOPER LTD (C F H K M 6 Q1)
Balm Road, Hunslet, Leeds LS10 2JR
Tel 0113 270 5441 Fax 0113 276 0659

CORDELL GROUP LTD (Q4)
Sotherby Road, Skippers Lane Industrial Estate,
South Park, Middlesbrough TS6 6LP
Tel 01642 452406 Fax 01642 464118

COVENTRY CONSTRUCTION LTD (Q1)
Torrington Avenue, Coventry CV4 9AP
Tel 024 7646 4484 Fax 024 7669 4020

CROWN STRUCTURAL ENGINEERING LTD
Burma Rd, Blidworth,
Mansfield, Notts NG21 0RT
Tel 01623 490555 Fax 01623 490666

KEY

- Categories**
- A All forms of building steelwork
 - B* Bridgework
 - C Heavy industrial plant structures
 - D High rise buildings
 - E Large span portals
 - F Medium/small span portals and medium rise buildings
 - H Large span trusswork
 - J Major tubular steelwork
 - K Towers
 - L Architectural metalwork
 - M Frames for machinery, supports for conveyors, ladders and catwalks
 - N Grandstands and stadia
 - S Small fabrications

- Quality Assurance Certification**
- Q1 Steel Construction Certification Scheme Ltd
 - Q2 BSI
 - Q3 Lloyd's
 - Q4 Other

- Classification Contract Value**
- 10 Up to £40,000
 - 9 Up to £100,000
 - 8 Up to £200,000
 - 7 Up to £400,000
 - 6 Up to £800,000
 - 5 Up to £1,400,000
 - 4 Up to £2,000,000
 - 3 Up to £3,000,000
 - 2 Up to £4,000,000
 - 1 Up to £6,000,000
 - 0 Above £6,000,000

- Notes**
- 1 Applicants may be registered in one or more categories to undertake the fabrication and the responsibility for any design and erection of the above.
 - 2 Where an asterisk (*) appears against any company's classification number, this indicates that the assets required for this classification are those of the parent company.
- * For details of bridgework sub-categories contact Gillian Mitchell at the BCSA.

CUSTOM METAL FABRICATIONS LTD
Central Way, Feltham TW14 0XJ
Tel 020 8844 0940 Fax 020 8751 5793

DGT STEEL & CLADDING LTD
Atlas Works, Norwich Road, Lenwade,
Norwich NR9 5SW
Tel 01603 30820 Fax 01603 308201

D H STRUCTURES LTD (Q2)
Tollgate Drive, Tollgate Industrial Estate,
Beaconside, Stafford ST16 3HS
Tel 01785 246269 Fax 01785 222077

FRANK H DALE LTD (D E F 2 Q4)
Mill Street, Leominster,
Herefordshire HR6 8EF
Tel 01568 612212 Fax 01568 619401

DISCAIN PROJECT SERVICES LTD
Hartburn Close, Crow Lane Industrial Estate,
Northampton NN3 9UE
Tel 01604 787276 Fax 01604 407290

ELLAND STEEL STRUCTURES LTD (C D E F K 1 Q1)
Philmar House, Gibbet St, Halifax HX2 0AR
Tel 01422 380262 Fax 01422 380263

EMMETT FABRICATIONS LTD (E F H 6)
Hirst Wood Works, Hirst Wood Road,
Shipley BD18 4BU
Tel 01274 597484 Fax 01274 588671

EVADX LTD (E F H J L M N 5 Q4)
Unit 9, Tir Llywod Enterprise Park,
St. Asaph Avenue, Kinmel Bay, Rhyl LL18 5JZ
Tel 01745 336413 Fax 01745 339639

FAIRFIELD-MABEY LTD (A B 0* Q4)
Chestpost, Monmouthshire NP16 5YL
Tel 01291 623801 Fax 01291 625453

FISHER ENGINEERING LTD (A 1 Q1)
Ballinamallard, Enniskillen,
Co Fermanagh BT94 2FY
Tel 028 6638 8521 Fax 028 6638 8706

GME STRUCTURES LTD
Unit E11-E14, Wem Industrial Estate,
Soulton Road, Wem, Shropshire SY4 5SD
Tel 01939 233023 Fax 01939 234059

GIBBS ENGINEERING LTD (Q4)
17A Axe Road, Colley Lane Industrial Estate,
Bradgewater, Somerset TA6 5LP
Tel 01278 455253 Fax 01278 453174

GLENTWORTH FABRICATIONS LTD (F H J K L M N 6 Q2)
Molly Millar's Bridge, Molly Millar's Lane,
Wokingham RG41 2WY
Tel 0118 977 2088 Fax 0118 977 2907

GORGE FABRICATIONS LTD
Gorge House, Great Bridge Industrial Estate,
Tol End Road, Tipton, West Midlands DY4 0HR
Tel 0121 522 5770 Fax 0121 557 0415

GRAHAM WOOD STRUCTURAL LTD (A 3)
Lanching Business Park, Chartwell Road,
Lancing BN15 8TY
Tel 01903 755991 Fax 01903 755384

GRAYS ENGINEERING (CONTRACTS) LTD
Globe Industrial Estate, Rectory Road,
Grays, Essex RM17 6ST
Tel 01375 372411 Fax 01375 375079

D A GREEN & SONS LTD (E F H J N 3 Q1)
Whaplode, Spalding, Lincs PE12 6TL
Tel 01406 370585 Fax 01406 370766

GREGG & PATTERSON (ENGINEERS) LTD (Q4)
Riverside Works, Ballykeagh Road,
Lambeg, Co Antrim BT27 5TD
Tel 028 9061 8131 Fax 028 9062 2813

HAD-FAB LTD (Q3)
Macmerry Ind. Est., Tranent, East Lothian EH33 1RD
Tel 01875 611711 Fax 01875 612711

WILLIAM HALEY ENGINEERING LTD (Q1)
Bellcombe Works, East Brent,
nr. Highbridge, Somerset TA9 4DB
Tel 01278 760591 Fax 01278 760587

HAMBLETON STEEL LTD
Gatherley Road, Brompton-on-Swale,
Richmond, North Yorkshire DL10 7JH
Tel 01748 810598 Fax 01748 810601

WILLIAM HARE LTD (A 0 Q1)
Brandsolme House,
Brandsolme Rd, Bury, BL8 1JJ
Tel 0161 609 0000 Fax 0161 609 0409

M. HASSON & SONS LTD (Q1)
17 Glebe Rd, Rasharkin, Co. Antrim BT44 8SS
Tel 028 2957 1281 Fax 028 2957 1575

HAWKES CONSTRUCTION CO
321A Hornchurch Rd, Hornchurch RM12 4TQ
Tel 01708 621010 Fax 01708 621026

HENRY SMITH (CONSTRUCTIONAL ENGINEERS) LTD (C D E F H J 4)
Wharton Steelworks, Winsford CW7 3BW
Tel 01606 592121 Fax 01606 559134

HESCOTT ENGINEERING CO LTD
Lochlands Viaduct, Larbert, Stirlingshire FK5 3NN
Tel 01324 556610 Fax 01324 552970

HILLCREST STRUCTURAL LTD
Hillcrest House, Tombees Road,
Eastleigh, Hants SO50 9DT
Tel 023 8064 1373 Fax 023 8061 3586

HILLS OF SHOEBURNESS LTD
17-13 Towerfield Road,
Shoeburyness, Essex SS3 9QJ
Tel 01702 296321 Fax 01702 297072

HORWICH STEELWORKS LTD
Unit 10, Horwich Loco Ind. Est.,
Chorley New Rd, Horwich, Bolton BL6 5UE
Tel 01204 695989 Fax 01204 669343

JAMES BROS (HAMWORTHY) LTD (E F H J N 4 Q3)
19 Blandford Rd, Hamworthy, Poole BH15 4AW
Tel 01202 673815 Fax 01202 684033

JOY STEEL STRUCTURES (LONDON) LTD,
London Industrial Park, L Whittings Way,
East Ham, London E6 6LR
Tel 020 7474 0550 Fax 020 7473 0158

JAMES KILLELEA & CO LTD (C D E F H N 1*)
Stonesholme Road, Crashesbooth,
Rossendale, Lancs BB4 8BA
Tel 01706 229411 Fax 01706 228388

T. A. KIRKPATRICK & CO LTD
Beltenmont, Kirkpatrick-Fleming,
Lockerbie DG11 3NQ
Tel 01461 800275 Fax 01461 800340

LEACH STRUCTURAL STEELWORK LTD
Brookholes Way, Cloughton-on-Brock,
nr Preston PR3 0PZ
Tel 01995 640133 Fax 01995 640719

LOWE ENGINEERING (MIDLAND) LTD
Bramshall Industrial Estate, Stone Road,
Bramshall, Staffs ST14 8SB
Tel 01889 563244 Fax 01889 563554

M D FABRICATIONS LTD
Queens Hill, Newport, South Wales NP20 5HU
Tel 01633 266691 Fax 01633 844612

M&S ENGINEERING LTD
East Road, Louthertown, Eastgriggs DG12 6TD
Tel 01461 401111 Fax 01461 40542

TERENCE MCCORMACK LTD (Q1)
17 Camlough Rd, Newry BT35 6J5
Tel 028 3026 2261 Fax 028 3026 8177

MALDON MARINE LTD
Unit 16, West Station Ind. Est.,
Spital Road, Maldon, Essex CM9 6TW
Tel 01621 859000 Fax 01621 858935

HARRY MARSH (ENGINEERS) LTD
The Parade, Hendon, Sunderland SR2 8LT
Tel 0191 510 9797 Fax 0191 510 9798

MIDLAND STEEL STRUCTURES LTD
Golden Acres Lane, Binley, Coventry CV3 2RT
Tel 024 7644 5584 Fax 024 7645 9995

MIFFLIN CONSTRUCTION LTD (D E F H M 4)
Worcester Rd, Leominster, Herefordshire HR6 8AY
Tel 01568 613311 Fax 01568 614935

NEWBRIDGE ENGINEERING LTD
Tees Bay Business Park, Brenda Rd,
Hartlepool TS25 2BU
Tel 01429 866722 Fax 01429 869811

NEWTON FABRICATIONS LTD
9 York Street, Ayr, Ayrshire KA8 8AN
Tel 01292 269135 Fax 01292 610258

NUSTEEL STRUCTURES LTD (B H J K L 4* Q1)
Lympe, Hythe, Kent CT21 4LR
Tel 01303 268112 Fax 01303 266098

ON SITE SERVICES (GRAVESEND) LTD (Q4)
Wharf Road, Denton, Gravesend, Kent DA12 2RU
Tel 01474 321552 Fax 01474 357778

OVERDALE CONSTRUCTION SERVICES LTD
Millers Avenue, Brynmern Industrial Estate,
Bridgend CF32 9TD
Tel 01656 729229 Fax 01656 722101

PMS FABRICATIONS LTD
Thomas Lane, Burgh Road Industrial Estate,
Carlisle, Cumbria CA2 7NA
Tel 01228 599090 Fax 01228 599091

HARRY PEERS STEELWORK LTD (Q1)
Elton St, Mill Hill, Bolton BL2 2BS
Tel 01204 528393 Fax 01204 362363

PENCRO STRUCTURAL ENGINEERING LTD (Q4)
Orpingsmill Road, Ballyclare, Co. Antrim BT39 0SX
Tel 028 9335 2886 Fax 028 9332 4117

QMEC LTD
Quarry Road, Bolsover, Nr Chesterfield S44 6NT
Tel 01246 822228 Fax 01246 827907

RSL (SOUTH WEST) LTD (E F H M 6)
Millfield Industrial Est., Chard,
Somerset TA20 2BB
Tel 01460 67373 Fax 01460 61669

JOHN REID & SONS (STRUCTUREL) LTD (A 1)
296-298 Reid Street, Christchurch BH23 2BT
Tel 01202 483333 Fax 01202 499763

REMNANT ENGINEERING LTD
Unit 161, Lydney Industrial Estate, Harbour Road,
Lydney, Gloucestershire GL15 4EJ
Tel 01594 841160 Fax 01594 843208

RIPPIN LTD
Thistle Ind. Est., Church Street,
Cowdenbeath KY4 8LP
Tel 01383 518610 Fax 01383 513099

ROBERTS ENGINEERING
16D Bergen Way, Sutton Fields Ind. Est.,
Hull HU7 0YQ
Tel 01482 838240 Fax 01482 830697

J. ROBERTSON & CO LTD (L M S 9)
Mill Lane, Walton-on-Noe, CO14 8PE
Tel 01255 672855 Fax 01255 850487

ROBINSON CONSTRUCTION (C D E F H J Q1)
Wincanton Close, Ascot Drive Industrial Estate,
Derby DE24 8NJ
Tel 01332 574711 Fax 01332 861401

ROWECORD ENGINEERING LTD (A B O Q1)
Neptune Works, Uskway, Newport,
South Wales NP20 2SS
Tel 01633 250511 Fax 01633 253219

ROWEN STRUCTURES LTD (A 1)
Fulwood Road (5th),
Sutton-in-Ashfield, Notts NG17 2JW
Tel 01623 558558 Fax 01623 440404

S H STRUCTURES LTD
Moor Lane Trading Estate, Sherburn-in-Elmet, North
Yorkshire LS25 6ES
Tel 01977 681931 Fax 01977 681930

SELWYN CONSTRUCTION ENGINEERING LTD
Tarron Road, Tarron Industrial Estate, Moreton, Wirral
CH46 4TU
Tel 0151 678 0236 Fax 0151 678 8959

SEVERFIELD-REEVE STRUCTURES LTD (A O* Q2)
Dalton Airfield Industrial Estate, Dalton, Thirsk, North
Yorkshire YO7 3JN
Tel 01845 577896 Fax 01845 577411

SHIPLEY FABRICATIONS LTD
Maddocks Park, Ancaster, Grantham,
Lincs NG32 3PL
Tel 01400 231115 Fax 01400 231220

SNASHALL STEEL FABRICATIONS CO LTD
Pulham Business Park, Pulham,
nr Dorchester, Dorset DT2 7DX
Tel 01300 345588 Fax 01300 345533

SOUTH DURHAM STRUCTURES LTD
South Church Enterprise Pk, Dovecot Hill,
Bishop Auckland, Co. Durham DL14 6XR
Tel 01388 773450 Fax 01388 752225

TAYLOR & RUSSELL LTD
Stonebridge Mill, Longridge PR3 3AQ
Tel 01772 782295 Fax 01772 785341

THE AA GROUP LTD
Priorswood Place, East Pimbo,
Skelmersdale, Lancs WN8 9QB
Tel 01695 50123 Fax 01695 50133

THE STEEL PEOPLE LTD
Unit 3E, Priory Park, Mills Road,
Aylesford, Kent ME20 7PP
Tel 01622 715900 Fax 01622 715905

TRADITIONAL STRUCTURES LTD (D E F H J K M N S Q1)
Findel Works, Lansywood Lane, Cheslyn Hay, Walsall,
West Midlands WS6 7AJ
Tel 01922 414172 Fax 01922 410211

SWINBURY CONSTRUCTION COMPANY LTD (F L 7)
Wanborne Road, Burnt Mills Industrial Estate,
Basildon, Essex SS13 1LD
Tel 01268 726060 Fax 01268 725285

WALTER WATSON LTD (Q4)
Greenfield Works, Ballylough Rd, Castlewelan,
Co Down BT31 9JQ
Tel 028 4377 8711 Fax 028 4377 2050

WATSON STEEL STRUCTURES LTD (A B O* Q1)
PO Box 9, Lostock Lane, Bolton BL6 4TB
Tel 01204 699999 Fax 01204 694543

WESTBURY PARK ENGINEERING LTD
Brook Lane, Westbury, Wilts BA13 4ES
Tel 01373 825500 Fax 01373 825511

WESTOK LTD
Horbury Junction Ind Est, Horbury Junction,
Wakefield WF4 5ER
Tel 01924 264121 Fax 01924 280030

JOHN WICKS & SON LTD
Unit 1, Crabbers Cross, Rattery,
South Brent, Devon TQ10 9JZ
Tel 01364 72907 Fax 01364 73054

WIG ENGINEERING LTD
Barnfield, Akeman Street,
Chereston, Oxon OX26 1TE
Tel 01869 320515 Fax 01869 320513

H. YOUNG STRUCTURES LTD (C E F H J N 6)
Ayton Road, Wymondham, Norfolk NR18 0RD
Tel 01953 601881 Fax 01953 607842

ASSOCIATE MEMBERS

STRUCTURAL COMPONENTS

ALBION SECTIONS LTD (Q4)
Albion Rd, West Bromwich,
West Midlands B70 8BD
Tel 0121 553 1877 Fax 0121 553 5507

AYRSHIRE METAL PRODUCTS (DAVENTRY) LTD (Q1)
Royal Oak Way, Daventry NN11 5NR
Tel 01327 300990 Fax 01327 300885

BARNSHAW PLATE BENDING CENTRE LTD
Corporation Rd, Audenshaw,
Manchester M34 5LR
Tel 0161 320 9696 Fax 0161 335 0918

CELLBEAM LTD
Unit 516, Thorp Arch Estate, Wetherby,
West Yorkshire LS23 7DB
Tel 01937 840614 Fax 01937 840608

COMPOSITE PROFILES UK LTD
15 Moor Road, Broadstone, Dorset BH18 8AZ
Tel 01202 659237 Fax 01202 659288

CORUS PANELS & PROFILES (Q1)
Severn Drive, Tewkesbury Business Park, Tewksbury,
Glos GL20 8TX
Tel 01684 856600 Fax 01684 856601

FLI PRODUCTS
Waterwells Drive, Waterwells Business Park,
Gloucester GL2 2AA
Tel 01242 722200 Fax 01242 722244

FABSEC LTD
Brooklands Road, Tunstall Road, Leeds LS11 5HL
Tel 0113 385 7830 Fax 0113 272 7587

HI-SPAN LTD
Ayton Rd, Wymondham NR18 0RD
Tel 01953 603081 Fax 01953 607842

INTELLIGENT ENGINEERING (UK) LTD
Shire House, West Common,
Gerrards Cross, Bucks SL9 7QN
Tel 01753 890575 Fax 01753 899056

KINGSPAN METL-CON LTD (Q4)
Sherburn, Malton, N. Yorkshire YO17 8PQ
Tel 01944 712000 Fax 01944 710555

RICHARD LEES STEEL DECKING LTD
Moor Farm Rd West, The Airfield, Ashbourne,
Derbyshire DE6 1HD
Tel 01335 300999 Fax 01335 300888

MSW STRUCTURAL FLOOR SYSTEMS LTD
Acton Grove, Long Eaton, Nottingham NG10 1FY
Tel 0115 946 2316 Fax 0115 946 2278

METSEC PLC (Q2)
Broadwell Rd, Oldbury, West Mids B69 4HE
Tel 0121 601 6000 Fax 0121 601 6181

STRUCTURAL METAL DECKS LTD
The Outlook, Ling Road, Tower Park,
Poole, Dorset BH12 4PY
Tel 01202 718998 Fax 01202 714980

STRUCTURAL SECTIONS LTD (Q1)
PO Box 92, Downing St,
Smethwick, Warley B66 2PA
Tel 0121 555 1342 Fax 0121 555 1341

STUDWELDERS LTD
Millennium Hse, Severn Link Distribution Centre,
Newhouse Farm Ind Est, Chepstow, Monmouthshire
NP16 6UN
Tel 01291 626048 Fax 01291 629979

COMPUTER SOFTWARE
COMPUTER SERVICES CONSULTANTS (UK) LTD
Yeoman House, New St, Pudsey, Leeds, LS28 8AQ
Tel 0113 239 3000 Fax 0113 236 0546

PSYCLE INTERACTIVE LTD
The Stable House, Whitewell,
Whitchurch, Shropshire SY13 3AQ
Tel 01948 780120 Fax 08701 640156

RAM INTERNATIONAL (EUROPE) LTD
4 Woodside Place, Glasgow G14 35J 5112
Tel 0141 353 5168 Fax 0141 353 5112

STEEL PROJECTS UK LTD
Lupton Court, Prospect Court,
Ossett, Wakefield WF5 8AF
Tel 01924 282008 Fax 01924 282007

TEKLA (UK) LTD
Tekla House, Cliffe Park Way,
Morley, Leeds LS27 0RY
Tel 0113 307 1200 Fax 0113 307 1201

DESIGN SERVICES
ARRO-CAD LTD
Bretby Business Park, Ashby Road,
Bretby, Burton-on-Trent DE15 0YZ
Tel 01283 558206 Fax 01283 558207

CALEDONIA DRAUGHTING LTD
36 Maple Road, Perth PH1 1EZ
Tel 01738 560501 Fax 01738 560501

DEVELOPMENT DESIGN DETAILING SERVICES LTD
171 Bradshawgate, Bolton, Lancs BL2 1BH
Tel 01204 396606 Fax 01204 396634

ODDA DESIGN LTD
The White House, Clifton Marine Parade, Imperial
Business Park, Gravesend, Kent DA11 0DY
Tel 01474 352849 Fax 01474 359116

STEEL PRODUCERS

CORUS CONSTRUCTION & INDUSTRIAL
Frodingham House, PO Box 1,
Brigg Road, Scunthorpe DN16 1BP
Tel 01724 404040 Fax 01724 404229

CORUS TUBES
PO Box 101, Weldon Rd, Corby,
Northants NN17 5UA
Tel 01536 402121

MANUFACTURING EQUIPMENT

FICEP (UK) LTD
10 The Courtyards, Victoria Park, Victoria Road,
Leeds LS14 2LB
Tel 0113 265 3921 Fax 0113 265 3913

KALTENBACH LTD
6-8 Brunel Road, Bedford MK41 9TJ
Tel 01234 213201 Fax 01234 351226

PEDDINGHAUS CORPORATION UK LTD
Unit 6, Queensway Link,
Stafford Park 17, Telford TF3 3DN
Tel 01952 200377 Fax 01952 292877

RÖSLER UK
Unity Grove, Knowsley Business Park,
Prescot, Merseyside L34 9GT
Tel 0151 482 0444 Fax 0151 482 4444

VOORTMAN UK LTD
Unit 8, Mercian Park, Felspar Rd,
Amington Rd, Tamworth B77 4DP
Tel 01952 633000 Fax 01952 65565

PROTECTIVE SYSTEMS

AMERON INTERNATIONAL
Blackwell Road, Huthwaite,
Sutton in Ashfield, Notts NG17 2RL
Tel 01623 511000 Fax 01623 559616

FORWARD PROTECTIVE COATINGS LTD
Vernon St, Shirebrook, Mansfield,
Notts NG20 8SS
Tel 01623 748323 Fax 01623 748730

INTERNATIONAL PAINT LTD
Protective Coatings, Stonegate Lane, Felling,
Gateshead NE10 0JY
Tel 0191 469 6111 Fax 0191 495 0676

LEIGH'S PAINTS
Tower Works, Kestor Street, Bolton BL2 2AL
Tel 01204 521771 Fax 01204 382115

SIGMA COATINGS LTD
4 Viny Court, Viny Road, Leighton Buzzard LU7 1FG
Tel 01525 375234 Fax 01525 378595

SITE COAT SERVICES LTD
Unit 11, Old Wharf Road, Grantham,
Lincolnshire NG31 7AA
Tel 01476 577473 Fax 01476 577642

JACK TIGHE LTD
Kirk Sandall Ind. Est., Kirk Sandall,
Doncaster DN3 1QR
Tel 01302 880360 Fax 01302 880370

WEDGE GROUP GALVANIZING
c/o Worktop Galvanizing Claylands Avenue, Worktop,
Notts S81 7BQ
Tel 01909 486384 Fax 01909 482540

SAFETY SYSTEMS

COMBISAFE INTERNATIONAL LTD
Unit 1, Zone A, Cheaney Drive, Grange Park,
Northampton NN4 5FB
Tel 01604 660600 Fax 01604 662960

EASI-EDGE
Ollerton Rd, Tuxford, Newark, Notts NG22 0PQ
Tel 01777 870901 Fax 01777 872047

STEEL STOCKHOLDERS

ADVANCED STEEL SERVICES LTD
South Ribble Industrial Estate, Capitol Way,
Preston, Lancs PR5 4AJ
Tel 01772 259822 Fax 01772 259561

ALTERNATIVE STEEL CO LTD
Dobson Park Way, Ince, Wigan WN2 2DY
Tel 01942 610601 Fax 01942 821999

ASD METAL SERVICES - EDINBURGH
24 South Gyle Crescent,
Edinburgh EH12 9EB
Tel 0131 459 3200 Fax 0131 459 3266

ASD METAL SERVICES - BODMIN
Unit 13, Cooksland Ind. Est.,
Bodmin, Cornwall PL31 2PZ
Tel 01208 770666 Fax 01208 77416

ASD METAL SERVICES - LONDON
Thames Wharf, Dock Road, London E16 1AF
Tel 020 7476 9444 Fax 020 7476 0239

ASD METAL SERVICES - CARLISLE
Unit C, Earls Way, Kingsmoor Park Central, Kingstown,
Cumbria CA6 4SE
Tel 01228 674766 Fax 01228 674197

ASD METAL SERVICES - HULL
Gibson Lane, Melton, North Ferryby,
East Riding of Yorkshire HU14 3HX
Tel 01482 633360 Fax 01482 633370

ASD METAL SERVICES - GRIMSBY
Estate Road No. 5, South Humberstone Industrial
Estate, Grimsby DN31 2TX
Tel 01472 353851 Fax 01472 240028

ASD METAL SERVICES - BIDDULPH
PO Box 2, Tunstall Road, Biddulph,
Stoke-on-Trent, Staffs ST8 6JZ
Tel 01782 515152 Fax 01782 522240

ASD METAL SERVICES - DURHAM
Drum Road, Drum Industrial Estate,
Chester-le-Street, Co. Durham DH2 1ST
Tel 0191 492 2322 Fax 0191 410 0126

ASD METAL SERVICES - CARDIFF
East Moors Road, Cardiff CF1 5SP
Tel 029 2046 0622 Fax 029 2049 0105

ASD METAL SERVICES - STALBRIDGE
Station Rd, Stalbridge, Dorset DT10 2RW
Tel 01963 362646 Fax 01963 363260

ASD METAL SERVICES - NORFOLK
Hamlyn Way, Kings Lynn, Norfolk PE30 4LQ
Tel 01553 761431 Fax 01553 692394

ASD METAL SERVICES - EXETER
Sidmouth Road, Chyst St Mary, Exeter EX5 1AD
Tel 01395 233366 Fax 01395 233367

ASD METAL SERVICES - DAVENTRY
Royal Oak Ind. Est., Daventry,
Northants NN11 5QQ
Tel 01327 876021 Fax 01327 87612

ASD METAL SERVICES - TIVIDALE
Tipton Road, Tividale, Oldbury,
West Midlands B69 3HU
Tel 0121 520 1231 Fax 0121 520 5664

AUSTIN TRUMANS STEEL LTD
Moss Lane, Walkden, Manchester M28 5NH
Tel 0161 790 4821 Fax 0161 799 0411

BARRETT STEEL SERVICES LTD
Barrett House, Cutler Heights Lane, Dudley Hill,
Bradford BD4 9HU
Tel 01274 682281 Fax 01274 651205

BROWN MCFARLANE LTD
Ladwell Works, New Century Street, Hanley,
Stoke-on-Trent ST1 5QH
Tel 01782 289909 Fax 01782 289804

BRUNSWICK STEEL SERVICES
South Park Road, South Park Industrial Estate,
Scunthorpe DN17 2BY
Tel 01724 810811 Fax 01724 819981

CELTIC STEEL SERVICES
Caerphilly Road, Ystrad Mynach,
Mid Glamorgan CF82 6EP
Tel 01443 812181 Fax 01443 812558

CORUS SERVICE CENTRE
Farningham Road Station, South Darenth,
nr Dartford DA4 9LD
Tel 01322 227272 Fax 01322 864893

CORUS SERVICE CENTRE
Badminton Rd Trading Est., Yate,
Bristol BS37 5JU
Tel 01454 315314 Fax 01454 325181

CORUS SERVICE CENTRE
Spittlegate Industrial Estate, Grantham,
Lincolnshire NG31 7UP
Tel 01476 565522 Fax 01476 562459

CORUS SERVICE CENTRE
Blackmore Road, Walker Industrial Estate,
Guide, Blackburn BB1 2LJ
Tel 01254 55161 Fax 01254 670836

CORUS SERVICE CENTRE
South Street, Glasgow G14 0BX
Tel 0141 959 1212 Fax 0141 959 0111

CORUS SERVICE LTD
Moira Rd, Lisburn, Co. Antrim BT28 2SN
Tel 01846 660747 Fax 01846 660748

CORUS SERVICE CENTRE
Wakefield Rd, Stourton, Leeds LS10 1AY
Tel 0113 276 0660 Fax 0113 272 4418

CORUS SERVICE CENTRE
The Steel Park, Steelpark Way, Wednesfield,
Wolverhampton WV11 3BR
Tel 01902 484000 Fax 01902 484041

DUDLEY IRON & STEEL CO LTD
Unit 8, Autobase Industrial Estate, Tipton Road,
Tividale, West Midlands B69 3HU
Tel 0121 601 5000 Fax 0121 601 5001

NATIONAL TUBE STOCKHOLDERS LTD
Dalton Industrial Estate, Dalton, Thirsk,
North Yorkshire YO7 3HE
Tel 01845 577440 Fax 01845 577165

NEWTON STEEL STOCK LTD
Landscape Lane, Gibbs Marsh Trading Estate,
Henstridge, Somerset BA8 0TN
Tel 01963 365028 Fax 01963 365034

PORTWAY STEEL SERVICES
The Stables, Brook Farm,
Westerleigh, Bristol BS37 8QH
Tel 01454 311442 Fax 01454 311445

RAINHAM STEEL CO LTD
Kathryn House, Manor Way,
Rainham, Essex RM13 8RE
Tel 01708 522311 Fax 01708 559024

SOUTH PARK STEEL SERVICES
Warrington Business Park, Long Lane,
Warrington, Cheshire WA2 8TX
Tel 01256 245511 Fax 01925 245566

SOUTH PARK STEEL SERVICES
South Park Road, South Park Industrial Estate,
Scunthorpe DN17 2BY
Tel 01724 810810 Fax 01724 810081

STEELSTOCK (BURTON ON TRENT) LTD
Ryder Close, Cadley Hill Road, Swadincote,
Derbyshire DE11 9EU
Tel 01283 226161 Fax 01283 550406

STRUTHERS & CARTER LTD
Erinus Works, Valletta Street,
Hedon Road, Hull HU9 5NU
Tel 01482 795171 Fax 01482 786186

The Register of Qualified Steelwork Contractors

BUILDINGS SCHEME

Applicants may be registered in one or more categories to undertake the fabrication and the responsibility for any design and erection of:

- A** All forms of steelwork (C-N inclusive)
C Heavy industrial plant structures

- D** High rise buildings
E Large span portals
F Medium/small span portals and medium rise buildings
H Large span trusswork
J Major tubular steelwork

- K** Towers
L Architectural metalwork
M Frames for machinery, supports for conveyors, ladders and catwalks
N Grandstands and stadia
S Small fabrications

Company Name	Telephone	A	C	D	E	F	H	J	K	L	M	N	S	QA	Contract Value (£)
ACL Structures Ltd	01258 456051				●	●	●				●				Up to £2,000,000
Atlas Ward Structures Ltd	01944 710421	●	●	●	●	●	●	●	●	●	●			●	Up to £6,000,000*
B D Structures Ltd	01942 817770			●	●	●	●								Up to £1,400,000*
B & K Steelwork Fabrications Ltd	01773 853400		●		●	●	●	●	●		●			●	Up to £4,000,000*
A C Bacon Engineering Ltd	01953 850611				●	●	●								Up to £800,000
Ballykine Structural Engineers Ltd	028 9756 2560				●	●	●	●				●		●	Up to £2,000,000
Barrett Steel Buildings Ltd	01274 266800				●	●	●							●	Up to £6,000,000
Billington Structures Ltd	01226 340666	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000
Bison Structures Ltd	01666 502792			●	●	●	●							●	Up to £2,000,000
Border Steelwork Structures Ltd	01228 548744		●		●	●	●					●			Up to £1,400,000
Bourne Steel Ltd	01202 746666	●	●	●	●	●	●	●	●	●	●	●			Above £6,000,000
Briton Fabricators Ltd	0115 963 2901		●		●	●	●	●	●	●	●	●		●	Up to £800,000
Brooksby Engineering	01707 872655				●			●	●	●	●				Up to £200,000
CTS Ltd	01484 606416						●	●							Up to £800,000
Cairnhill Structures Ltd	01236 449393		●			●	●	●		●	●			●	Up to £1,400,000*
Cleveland Bridge UK Ltd	01325 381188	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000*
Compass Engineering Ltd	01226 298388		●		●	●	●		●						Up to £2,000,000
Leonard Cooper Ltd	0113 270 5441		●		●	●	●		●		●			●	Up to £800,000
Costruzioni Cimolai Armando SpA	01223 350876	●	●	●	●	●	●	●	●	●	●	●		●	Up to £6,000,000
Curtis Engineering Ltd	01373 462126				●										Up to £800,000
Frank H Dale Ltd	01568 612212			●	●	●								●	Up to £4,000,000
EAGLE Structural Ltd	01507 450081				●	●	●	●	●	●					Up to £400,000
Elland Steel Structures Ltd	01422 380262		●	●	●	●	●		●					●	Up to £4,000,000
Emmett Fabrications Ltd	01274 597484				●	●	●								Up to £800,000
EvadX Ltd	01745 336413				●	●	●	●	●	●	●	●		●	Up to £1,400,000
Fairfield-Mabey Ltd	01291 623801	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000*
Fisher Engineering Ltd	028 6638 8521	●	●	●	●	●	●	●	●	●	●	●		●	Up to £6,000,000
Glentworth Fabrications Ltd	0118 977 2088				●	●	●	●	●	●	●	●		●	Up to £2,000,000
Graham Wood Structural Ltd	01903 755991	●	●	●	●	●	●	●	●	●	●	●		●	Up to £3,000,000
D A Green & Sons Ltd	01406 370585				●	●	●	●				●		●	Up to £3,000,000
William Hare Ltd	0161 609 0000	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000
Harland & Wolff Heavy Industries Ltd	028 9045 8456		●		●	●	●	●	●	●	●	●		●	Up to £6,000,000
James Bros (Hamworthy) Ltd	01202 673815				●	●	●	●				●		●	Up to £2,000,000
James Killelea & Co Ltd	01706 229411		●	●	●	●	●					●			Up to £6,000,000*
Meldan Fabrications Ltd	01652 632075		●		●	●	●	●	●		●			●	Up to £4,000,000
Miffilin Construction Ltd	01568 613311			●	●	●	●				●				Up to £2,000,000
Harold Newsome Ltd	0113 257 0156				●	●	●								Up to £1,400,000
Normanby Wefco Ltd	01427 611000		●				●	●	●		●			●	Up to £800,000
Nusteel Structures Ltd	01303 268112				●	●	●	●	●	●	●			●	Up to £2,000,000*
Oswestry Industrial Buildings Ltd	01691 661596				●	●	●		●		●				Up to £400,000
RSL (South West) Ltd	01460 67373				●	●	●				●				Up to £800,000
John Reid & Sons (Strucsteel) Ltd	01202 483333	●	●	●	●	●	●	●	●	●	●	●			Up to £6,000,000
J Robertson & Co Ltd	01255 672855									●	●		●		Up to £100,000
Robinson Construction	01332 574711		●	●	●	●	●							●	Up to £6,000,000
Roll Formed Fabrications Ltd	028 7963 1631				●	●	●	●	●	●	●	●		●	Up to £800,000
Rowecord Engineering Ltd	01633 250511	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000
Rowen Structures Ltd	01623 558558	●	●	●	●	●	●	●	●	●	●	●			Up to £6,000,000
SIAC Butlers Steel Ltd	00 353 502 23305		●	●	●	●	●	●				●		●	Up to £6,000,000
Severfield-Reeve Structures Ltd	01845 577896	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000*
Henry Smith (Constructional Engineers) Ltd	01606 592121		●	●	●	●	●	●							Up to £2,000,000
Traditional Structures Ltd	01922 414172			●	●	●	●	●	●		●	●		●	Up to £1,400,000
Warley Construction Company Ltd	01268 726020				●					●					Up to £400,000
Watson Steel Structures Ltd	01204 699999	●	●	●	●	●	●	●	●	●	●	●		●	Above £6,000,000*
Webcox Engineering Ltd	01249 813225				●	●	●				●				Up to £400,000
H Young Structures Ltd	01953 601881		●		●	●	●	●				●			Up to £800,000

Notes (1) Contracts which are primarily steel but which may include associated works. The steelwork contract for which a company is pre-qualified for the Scheme is intended to give guidance on the size of steelwork contract that can be undertaken; where a project lasts longer than a year, the value is the proportion of the steelwork contract to be undertaken within a 12 month period.

(*) Where an asterisk appears against any company's classification number, this indicates that the assets required for this classification level are those of the parent company.



BRIDGEWORKS SCHEME

Based on evidence from the company's resources and portfolio of experience, the Subcategories that can be awarded are as follows:

FG Footbridges and sign gantries

PT Plate girders (>900mm deep), trusswork (>20m long)

BA Stiffened complex platemwork in decks, box girders, arch boxes.

CM Cable stayed bridges, suspension bridges, other major structures (>100m)

MB Moving bridges

RF Bridge refurbishment

X Unclassified

Applicants may be registered in more than one sub-category.

Company Name	Telephone	FG	PT	BA	CM	MB	RF	X	Contract Value (1)
Allerton Engineering Ltd	01609 774471	●	●	●	●	●	●		Up to £1,400,000*
Briton Fabricators Ltd	0115 963 2901	●	●	●			●		Up to £800,000
Butterley Ltd	01773 573573	●	●	●	●	●	●		Up to £3,000,000*
CTS Ltd	01484 606416	●	●		●	●			Up to £800,000
Cleveland Bridge UK Ltd	01325 381188	●	●	●	●	●	●		Above £6,000,000*
Costruzioni Cimolai Armando SpA	01223 350876	●	●	●	●	●			Up to £6,000,000
Fairfield-Mabey Ltd	01291 623801	●	●	●	●	●	●		Above £6,000,000*
Harland & Wolff Heavy Industries Ltd	028 9045 8456	●	●	●	●		●		Up to £6,000,000
Interserve Project Services Ltd	0121 344 4888						●		Above £6,000,000
Interserve Project Services Ltd	020 8311 5500		●	●		●	●		Up to £400,000*
Meldan Fabrications Ltd	01652 632075	●	●	●	●	●	●		Up to £4,000,000
'N' Class Fabrication Ltd	01733 558989	●	●	●		●	●		Up to £1,400,000
Normanby Wefco Ltd	01427 611000	●	●	●			●		Up to £800,000
Nusteel Structures Ltd	01303 268112	●	●	●	●				Up to £2,000,000*
P C Richardson & Co (Middlesbrough) Ltd	01946 727119	●					●		Up to £6,000,000
Rowecord Engineering Ltd	01633 250511	●	●	●	●	●	●		Above £6,000,000
Taylor & Sons Ltd	029 2034 4556	●	●	●	●	●	●		Up to £800,000
Watson Steel Structures Ltd	01204 699999	●	●	●	●	●	●		Above £6,000,000*

Notes (1) Contracts which are primarily steel but which may include associated works. The steelwork contract for which a company is pre-qualified for the Scheme is intended to give guidance on the size of steelwork contract that can be undertaken; where a project lasts longer than a year, the value is the proportion of the steelwork contract to be undertaken within a 12 month period.

(*) Where an asterisk appears against any company's classification number, this indicates that the assets required for this classification level are those of the parent company.

SCI Members



The Steel Construction Institute develops and promotes the effective use of steel in construction. It is an independent, membership-based organisation. Membership is drawn from all sectors of the construction industry; this provides beneficial contacts both within the UK and internationally. Its corporate members enjoy access to unique expertise and free practical advice which contributes to their own efficiency and profitability. They also receive an initial free copy of most SCI publications, and discounts on subsequent copies and on courses. Its multi-disciplinary staff of 45 skilled engineers and architects is available to provide technical advice to members on steel construction in the following areas:

- Technical Support for Architects
- Bridge Engineering
- Building Interfaces
- Civil Engineering
- Codes and Standards
- Composite Construction
- Connections
- Construction Practice
- Corrosion Protection

- Fabrication
- Health & Safety — best practice
- Information Technology
- Fire Engineering
- Light Steel and Modular Construction
- Offshore Hazard

- Engineering
- Offshore Structural Design
- Piling and Foundations
- Specialist Analysis
- Stainless Steel
- Steelwork Design
- Sustainability
- Vibration

Details of SCI Membership and services are available from:

Pat Ripley, Membership Manager, The Steel Construction Institute, Silwood Park, Ascot, Berks.

Telephone: +44 (0)1344 623345 Fax: +44 (0)1344 622944

Email: pat.ripley@steel-sci.com Website: www.steel-sci.com

The Steel Construction Institute would like to welcome the following new Corporate Members:

UK

Henrob Limited
The Laser Cutting Company Ltd

Ireland

Newell Roofing Products

All full members of the BCSA are automatically members of the SCI. Their contact details are listed on the BCSA Members pages

We cover more...

This 5,500 tonnes roof assembly was delivered on time using FabTrol MRP software



More users, more features, more productivity.

- ▶ Estimating
- ▶ Drawing Management & 3D Model Imports
- ▶ Project Management
- ▶ Material Management
- ▶ Production Management

LEARN MORE ONLINE

Read our white paper on "Applying Lean Manufacturing Concepts to Steel Fabrication" at www.cscworld.com/lean

FabTrol MRP has been a market leader in the supply of management information software to the steel fabrication industry for the last 25 years. It is one of the world's most extensively used and feature-rich MIS solutions, representing best practice from over 1000 fabricators.

FabTrol MRP is a truly integrated and scalable solution that incorporates all the key business functions involved in the steel fabrication process.

By improving the quality and availability of management and operational information, FabTrol MRP users are proven to reduce operating costs whilst increasing their effectiveness.

For more information on our software please visit our website www.cscworld.com or contact us on +44 (0)113 239 3000.

www.cscworld.com



CSC (UK) Limited
Yeadon House, New Street, Pudsey, Leeds LS28 8AQ. England
tel ▶ +44 (0)113 239 3000 fax ▶ +44 (0)113 236 0546
e-mail ▶ sales@cscworld.com website ▶ www.cscworld.com