

SEPTEMBER 2026

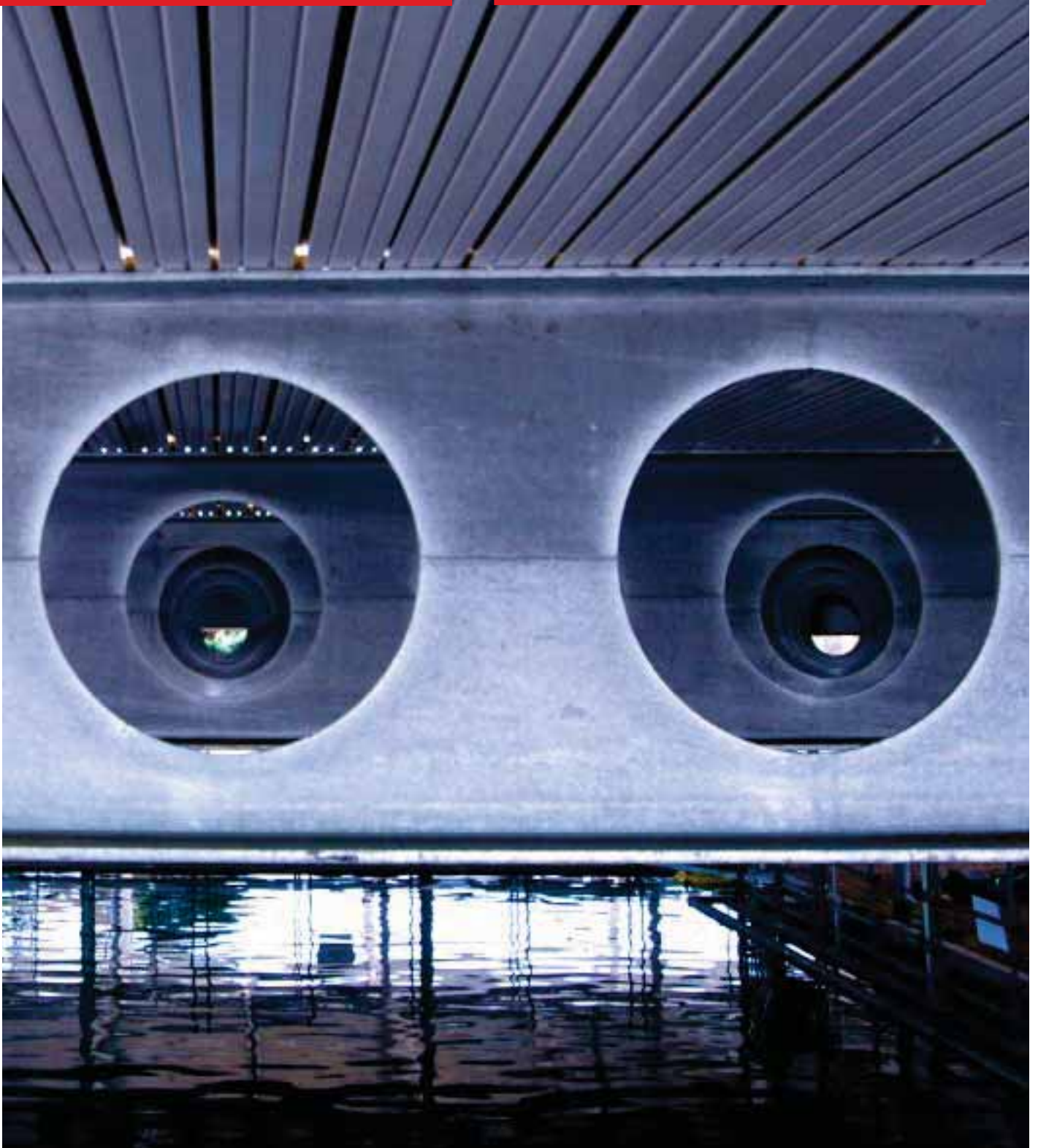
NSC

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Appleby gives top marks to steel

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Cover image

Deal Leisure Centre, Kente

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Architect: GT3 Architects

Main contractor: Pellikaan Construction

Structural engineer: Engenuity

Steelwork contractor: Adstone Construction

Steel tonnage: 125t

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Statistical truth



Chris Durand
BCSA President

In the month since writing my last column the UK has effectively changed its government with a new Prime Minister and a complete overhaul of the cabinet. I've noted before how the continual changing of ministers alters both policy priorities and implementation and as a result does nothing to help business planning. However, so far, the new leadership at least seems more pragmatic and has been making some reassuring comments. In my column last October, I commented on the upcoming budget and how continued speculation over tax increases was undermining confidence, impacting investment and as a result our members were finding their projects put on hold or delayed. It was encouraging to see that our new Chancellor agrees with this sentiment and has criticised his predecessor for creating this pessimism which "eroded our own prosperity".

In last month's column, I also noted that I remain optimistic for the future and at last there does seem to be an improving market out there with more projects coming through and these are not just data centres. A study of recent PMI indices shows that optimism within the UK construction sector has turned sharply for the better with stronger customer demand and improving financial conditions. Unfortunately, this is not also the case within Ireland where the indices have gone back slightly over the same period, but in contrast the PMI here has been consistently higher over the past year.

The UK manufacturing sector has now shown increases in output for the last four months and the service sector is also finally on the rise. This is all good news and should have a positive impact on the workload of our members over the coming months. However, it is also interesting to see how various online articles put very different spins on the interpretation of the same data. Most reviewers note how positive these indices are, especially when you consider the chaos caused by tariffs and the knock-on effects of war in the Middle-East. In contrast, others chose to concentrate on the fact that last month's figures were down slightly and took this as an indication that there could yet be more trouble ahead. This demonstrates that while we may both be standing in the same place, if we look in two different directions the road away will appear quite different.

We are now also a couple of months into the new steel tariffs regime and the BCSA must remain vigilant for any negative developments. When it appears that at last the construction market is expanding, we must ensure that any associated increase in structural steel market size is to the benefit of our members and does not just encourage an increase in offshore fabrication driven by the ability to import tariff-free fabricated structural steel.

To this end, the BCSA has requested the support of members in providing as much evidence and data as possible regarding the impact of the new quotas and tariffs and please help in any way you can. If and when we find evidence that the new regime is harming the domestic market it will be vital that the data is definitive and compelling if we are to convince government to change direction. Following continued lobbying, the new Government has already confirmed that evidence of harm is required if we are to see action.

It is an unfortunate truth that given the chance, even good news like the latest PMI figures can be interpreted in different ways and as a wise man once said, "there are lies, damned lies and statistics".



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SSDA 2026 shortlist announced

The shortlist for the 58th Structural Steel Design Awards (SSDA), jointly sponsored by the British Constructional Steelwork Association (BCSA) and Steel for Life, has been announced (see page 11).

This year's awards received a great number of submissions, with the 21 shortlisted projects highlighting steel's flexibility and versatility across diverse applications in the UK and Republic of Ireland.

The winners will be announced at an evening reception in London on 17th September.

BCSA CEO Jonathan Clemens said: "Since their inception in 1969, the SSDAs have showcased exemplary steelwork projects in the UK and Ireland, which are exceptional when measured on a global benchmark.

"The UK and Ireland remain at the forefront in its use of steel as a construction material. Steel solutions provide low-carbon, high-quality structures designed with reuse in mind.

"These projects show that buildings and infrastructure are for the future, not just the present. Steel creates beautiful, functional, adaptable and cost-effective spaces.

"Advances in robotics and digital platforms are changing practices, which should be applauded. This evolution will help ensure the UK and Ireland remain the most steel-intensive construction markets."

Full details of the shortlisted projects can be found at <https://bcsa.org.uk/resources/structural-steel-design-awards/>



Structural Steel Design Awards Shortlist 2026

- 38 Berkeley Square, London
- 81 Newgate Street, London
- 334 Oxford Street, London
- BAE Govan, Glasgow
- Hill Dickinson Stadium, Liverpool
- First Street, Manchester
- Fortnum & Mason, London
- Gairnshiel Jubilee Bridge
- Greycoat Stores, London
- Manchester Airport Terminal 2 Reconfiguration
- PUMA Flagship Store, London
- Sandyford House, Newcastle upon Tyne
- Stonecutter, London
- Tan House Footbridge, Berkshire
- TBC.London
- The Bolt of Lightning, Warrington
- The Jellicoe, London
- The Ribbon, London
- The Whale on the Wharf (Skyscraper), London
- The Bakery Building, Dublin
- Vyshhorod Bridge, Kyiv, Ukraine

Steelwork up for town centre redevelopment



Known as the Leyland Town Deal, a major redevelopment scheme is progressing in the Lancashire town.

One of the project's two main phases includes a new civic square and the refurbishment of the town's market hall. Overlooking the square are two steel-framed structures; a [commercial building](#) and a mixed-use structure.

Working on behalf of Eric Wright Construction, Leach Structural Steelwork has [fabricated](#), supplied and installed the steelwork for this phase.

Councillor Matthew Tomlinson, Leader of South Ribble Borough Council, said:

"I'm extremely pleased with the progress being made on the Leyland Town Deal works. This is a truly transformative project for our town, and it's something we're immensely proud to be delivering for our communities."

Steve Reid, Pre-Construction Director at Eric Wright Construction, commented: "We are proud to be working in partnership with our valued clients, South Ribble Borough Council and pleased to be delivering such important works that will not only boost the town centre economically but provide improved community facilities for years to come."

Contractor named for new London Stansted Airport skylinks

London Stansted Airport has confirmed Farrans as its partner for the construction of its new skylink walkways.

The new skylinks are an integral feature of the airport's transformation programme, creating walkways to directly connect the main terminal to existing satellite buildings that are home to the departure and arrival gates.

The addition of the skylinks will enable Stansted's track transit people mover system to be decommissioned, creating the space for the terminal building to be extended towards the airfield in later phases of the transformation work.

The centrepiece of the programme

is a three-bay extension to the existing terminal that will transform the customer experience. It adds 16,500m² of space, creating a bright, spacious environment with new shops, bars and restaurants, making Stansted the biggest single terminal airport in Europe.

The skylinks will feature passenger travelators and allow for assistance buggies to take passengers with reduced mobility on the full journey between the terminal and the arrival and departure gates.

Work will begin later this summer with pre-assembly of skylink sections taking place offsite in a vacant airport hangar on the north side of the airfield.

This method of construction will save

time and, by reducing working at height, create a safer working environment, as well as reducing congestion in busy airport operational areas.

Once each section is completed, they

will be transported overnight from the construction hangar across the airfield on self-propelled modular transporters (SPMTs) to minimise disruption to the airport's operation.





Nick Barrett, Editor and Editor-in-Chief, of *New Steel Construction (NSC)* has sadly died at the age of 72.

Acknowledged by his many colleagues (past and present) as a professional and diligent journalist, Nick oversaw *NSC*'s coverage of the UK and Ireland's steel construction sector since 2005.

Highlighting and featuring articles on many of the nation's iconic and landmark steel-framed structures of the last 20 years, alongside technical and industry reports, *NSC* has become

Remembering NSC's long-standing editor

a well-known and indispensable publication for the sector.

Nick also helped produce many supplements and brochures on behalf of the British Constructional Steelwork Association, including *Steel Construction Design for Reuse* (printed this year) and others on a variety of topics such as education, fire engineering and sustainability.

Born in Glasgow, he attended the city's Caledonian University (formerly known as Glasgow College of Technology) and was awarded Bachelor's degrees in economics and politics.

Moving to London in the late 1970s, Nick's journalist journey began on the Westminster Press Graduate Trainee Scheme at the *Ealing Gazette*. He later found his calling writing and reporting on the construction industry. He was a

staff writer at *New Civil Engineer* from 1981 to 1985.

Following three years working for a City stockbroker, he established Barrett Byrd Associates (and later Alignment Media), Kent-based contract publishers and press relations companies specialising in construction, manufacturing and transportation.

Outside of steel construction, Nick had many hobbies and interests to keep him occupied. He had an extensive knowledge of music and played guitar and the piano. He enjoyed sailing from his home town on the coast, got involved with art classes and passionately supported Scottish Premiership champions Celtic.

He is survived by his wife, Cathy, daughters Kirsty, Catherine and Sophie and four grandchildren, Chloe, Alasdair, Lyra and Oliver.

Canary Wharf's landmark tower set for major transformation

The 45-storey 8 Canada Square steel-framed tower in the heart of the London Docklands estate could be transformed if a multi-million-pound scheme gets the go-ahead.

Planning proposals, which include reconfiguring the upper levels into landscaped terraces, have been submitted by Canary Wharf Group and the building's owner Qatar Investment



Authority to the local council.

While some of the office floors will be retained, much of the former bank headquarters will be converted into a 181-room hotel, with the upper floors accommodating restaurants and leisure facilities.

Named the Cloud, levels 42 and 43 would be radically altered in order to create a publicly accessible rooftop venue, which would boast panoramic views across the capital.

Work on the project could start in 2028.

Additional floors and a retained façade for Knightsbridge development

Three adjacent sites at 30-33 Sloane Street, 2-4 Hans Crescent and the ground floor of 49 Pavilion Road are being combined to form a new mixed-use development that sits sensitively within the Knightsbridge conservation area.

Forming the main part of the scheme, the 1920s-built Portland stone façade of 30-33 Sloane Street is being retained, while two additional steel-framed floors have been added to the top, forming a new six-storey building.

Working on behalf of main contractor Galliford Try, Bourne Steel has installed 376t of steelwork for the project.

Aiming to achieve a BREEAM 'Outstanding' rating, the scheme will accommodate luxury retail units, offices and a rooftop restaurant with a terrace offering views across central London.

The project, which is due to complete in 2027, is part of the wider regeneration of the area being undertaken by Cadogan Estates.



NEWS IN BRIEF

A total of eleven contracts have been signed to deliver new **hospitals** across the country. The agreements bring together NHS trusts and leading construction companies to deliver the hospital schemes through a new collaborative approach that is designed to build modern **hospitals** more efficiently, while ensuring every scheme continues to meet the needs of its local patients, staff and communities.

Willmott Dixon has secured the £19.3 million first phase of Coleg Gwent's redevelopment of its Crosskeys Campus in Newport, transforming the site into a modern, net zero carbon learning environment for one of Wales' largest further education colleges.

Tilbury Douglas has been appointed to lead the construction of Brunswick Community Primary School on behalf of the Department for Education (DfE). Located in Sheffield, the scheme comprises the construction of a new **two-storey school**, including a community swimming pool, as well as a new multi-use games area, car parking and external landscaping.

Working on behalf of Cumberland Council, **Morgan Sindall Construction** has begun work on the steel-framed Industrial Solutions Hub (ISH) Enterprise Campus based at Leconfield Industrial Estate in Cleator Moor. The project, which has funding and support from the Government through the Town Deal and Levelling Up programmes, also includes the Nuclear Decommissioning Authority and Sellafield as strategic partners.

Pension manager Railpen, working in collaboration with developer **Wrenbridge**, has started construction of an 11,410m² logistics and industrial unit at the South Mimms X distribution park in Hertfordshire. Positioned just 14.5 miles from London, the unit is designed for a wide range of operators and will include 13 dock loading doors, two level access doors as well as incorporating a 68m secure gated yard.

Light Steel Frame Association launches net zero guide



To help designers, developers and specifiers navigate forthcoming legislation, the Light Steel Frame Association (LSFA) has launched a new guidance document – The Cost-Effective Route to Net Zero.

The guide explores how light steel frame construction can support the industry's journey to net zero through whole-life carbon reduction, circular construction principles and advances in low-carbon steel production.

It provides practical guidance for project teams looking to deliver high-performance, future-ready buildings while maintaining commercial viability.

The publication highlights the importance of considering carbon emissions across the entire lifecycle of a building – from material extraction and manufacture through construction, occupation, adaptation and eventual deconstruction.

Light steel frame is uniquely positioned to support this approach. As one of the world's most recyclable construction materials, steel can be reused or recycled indefinitely without any loss of structural performance. Today's light steel frame systems already contain between 60% and 90% recycled steel, while the steel industry

continues to accelerate its transition towards low-carbon production through Electric Arc Furnace (EAF) technology powered by renewable energy.

The new Electric Arc Furnace at Port Talbot is expected to reduce on-site CO₂ emissions by up to 90%, marking a significant milestone in the UK's transition to green steel – with production anticipated to commence around 2027.

The Cost-Effective Route to Net Zero guide is available as a free, open-source resource and can be downloaded from the LSFA document library at www.lsf-association.co.uk/document-library.

Steel transfers for London student accommodation

Nearly 1,000t of structural steelwork has been installed to support a new student accommodation scheme at 61-65 Holborn Viaduct in central London.

The predominantly concrete-framed scheme has used a steel transfer structure to span a tunnel, accommodating the platforms of the disused Snow Hill Station as well as the railway lines that serve the nearby City Thameslink Station run beneath the project's western portion in a north-south direction.

The transfer structure includes five 28m-long plate girders, positioned at ground and first floor levels. It supports the concrete-framed building above and

ensures all structural loads are diverted to columns and piles that have been positioned either side of the Network Rail infrastructure.

The 2m-deep girders weigh 100t each and were fabricated and delivered to site, by steelwork contractor Severfield, in up to five transportable and erectable sections. In order to not exceed the lifting capacity of the onsite tower crane, used for the entire steel erection package, none of the girder sections weighed more than 30t.

The developer for the project is Dominus and the main contractor is McAleer & Rushe.



Plans in for major Kent logistics park

Industrial real estate developer Panattoni has submitted a planning application for a major logistics development at Maidstone in Kent.

Known as Panattoni Park Maidstone,

the first phase of the project will consist of **two warehouse units** of 9,290m² and 13,935m² respectively.

Outline permission is also being sought for a second phase of work,

which will provide customers with opportunities to secure flexible built-to-suit facilities.

The 70-acre site at Lenham is a former manufacturing site which is

being brought back into productive use. It is strategically located close to the A20 and M20, with good connections to London and the Channel ports.

The development will target **BREEAM** 'Excellent' and EPC A+ ratings, with buildings designed to support modern logistics, manufacturing and distribution operations. Alongside the commercial floorspace, the scheme will deliver around 5km of new and improved roads, cycleways and footpaths, together with landscaping and enhanced public access across the site.

David McGougan, Senior Development Director for the South East at Panattoni, said: "This is a significant planning application that will unlock more than one million square feet of high-quality industrial and logistics space in a market where modern supply remains constrained."



Steel bending experts celebrate 75th anniversary

Tipton-based Angle Ring is celebrating its 75th anniversary, marking a major milestone for one of the UK's leading steel bending specialists.

Founded in 1951 by Frank Barnshaw, the company today supports fabricators, architects, steelwork contractors and civil engineers across the UK and abroad.

The company's specialist bending capabilities have seen it contribute

to projects of all shapes, sizes and sectors, from major infrastructure and architectural steelwork to creative and one-of-a-kind commissions.

This range is reflected in projects such as the Waterside Footbridge over the River Trent in Nottingham, where Angle Ring supplied complex curved steel sections for the first new bridge built across the river in more than 60 years.

Daniel Barnshaw, Managing Director of Angle Ring and grandson of the company's founder, said: "Reaching 75 years in business is an incredibly proud moment for everyone connected with Angle Ring.

"This milestone is not just about looking back at what we have achieved, but recognising the people, customers, suppliers and local community who have



helped shape the business over the last seven and a half decades."

Wirral school project celebrates construction milestone



Project team members and clients have marked a key milestone in the construction of the new Mosslands School in Wallasey with a steel-signing ceremony.

Designed by Ellis Williams Architects, the new school will provide a modern, state-of-the-art learning environment across a 19-acre site, with flexible spaces

supporting high-quality teaching in science, technology, engineering, art and mathematics.

The redevelopment also includes two sports halls, a replacement all-weather sports pitch, a multi-use games area, new car parking and cycle storage. The existing school buildings will be demolished once the new campus is complete.

Working on behalf of main contractor Willmott Dixon, Hambleton Steel is fabricating, supplying and erecting the steelwork.

Anthony Dillon, Managing Director for the North at Willmott Dixon, said: "The steel signing marks an exciting milestone

in the transformation of The Mosslands School and it was great to celebrate this achievement with the school, the Department for Education (DfE) and our project partners."

Councillor Julie McManus, Deputy Leader of Wirral Council, added: "The Mosslands School is one of a number of schools being transformed through the DfE's School Rebuilding Programme, which is delivering improved facilities and high-quality learning environments for future generations. We're delighted to see this level of investment in Wirral, helping to provide our young people with the best possible start in life and a school environment they can truly be proud of."

Contractor named for West End commercial scheme

Kier has been appointed by developer Derwent London to deliver Holden House, a landmark office-led scheme on the corner of Oxford Street and Rathbone Place in the capital's West End.

The appointment follows on from Kier completing the steel-framed Network W1 building on Tottenham Court Road for the same developer.

The £98 million Holden House project will transform the existing building through a major 'behind-the-façade' redevelopment. The work will

extend the building to eight-storeys and provide 10,680m² of Grade A office accommodation, alongside 1,800m² of retail space fronting Oxford Street.

With sustainability at the forefront of its design, the project is aiming to achieve BREEAM 'Outstanding', LEED Gold, NABERS UK 4.5 Star, EPC 'A', SmartScore Platinum and WiredScore Platinum certifications.

Derwent London Development Director Richard Baldwin said: "Holden House will deliver prime commercial

space behind the Grade II listed façade fronting Oxford Street. Bringing together heritage, sustainability and exceptional design, it will create a distinctive new workplace in one of London's most well-connected locations.

"We look forward to working with Kier and continuing our collaborative relationship on this exciting project, after the recent completion of Network W1."

The project is due to complete in 2028.



Diary

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For BCSA events, visit: <https://bsca.org.uk/events/>



Wed 16 Sept 2026 Snow Loads to Generation 2 Eurocodes Webinar

There are very significant changes arriving with the introduction of BS EN 1990-1-3:2025 in March 2028. Snow redistributed into drifts in valleys and behind parapets will no longer be an accidental case, but a persistent case subject to the usual partial factors. Redistributed snow is in addition to the uniform snow, impacting both primary and secondary steelwork. This webinar will serve as an introduction to these important changes.



Wed 7 Oct 2026 Portal Frames Webinar

Portal frames account for around 50% of the structural steel used in the UK. Despite their simple form, the design must address several complex challenges, including reversing bending moments, axial compression in slender members, second-order effects in flexible frames, and the need for effective restraints. This webinar will explore commonly misunderstood aspects of portal frame design and provide an overview of how the second generation of Eurocodes will influence current design practice.



Tue 13 & Thu 15 Oct 2026 Designing in Stainless Steel Online course

This 4-hour course will equip engineers with the skills necessary to design structural stainless steel in accordance with European design practice, with some changes in the Second Generation edition of EN 1993-1-4:2025 highlighted. The differences in properties and behaviour compared to carbon steel will be highlighted. Each delegate will be given a PDF copy of 'Design Manual for Structural Stainless Steel (P413)'.

Office space boost for City of London fringe

Endurance Land, a member of Nan Fung Group, has formally appointed Multiplex as main contractor for its landmark scheme at 99 City Road, on the edge of the capital's Square Mile.

The 36-storey tower will deliver 44,128m² of **commercial space** and offer uninterrupted, 360-degree views across London.

Designed as a next-generation tower for 4,000 occupiers, 99 City Road is said to embed the core principles of **sustainability**, social value, resilience, adaptability and a tenant-led approach into every layer of the scheme, expanding London's innovation infrastructure.

Engineered for innovation-led occupiers, the tower offers efficient, flexible floorplates and high-power capacity to suit diverse operational needs. Designed as an environment where teams can thrive, every amenity

has been thoughtfully curated to drive collaboration across the entire workday, featuring a triple-height event space, wellness suite, dining and café facilities, conference lounges, private terraces and end-of-trip provisions.

Richard Rixson, Director at Endurance Land, said: "The scheme is designed around an idea: a workplace that drives innovation, giving tenants the environment they need to pursue their vision."

"Appointing Multiplex as main contractor is about more than bringing on a tier-one builder; it is about partnering with a team that truly understands who we are, shares our bold ambition for 99 City Road and consistently executes to the highest standard."

Callum Tuckett, Managing Director at Multiplex UK, added: "We're delighted to be working with Endurance Land once again on the delivery of 99 City



Road. This appointment represents an important step forward for a development that will set a new standard for high-quality workspace in one of

London's most dynamic locations."

Construction works will commence this year, with practical completion targeted for 2030

New leisure centre to provide wellbeing boost for Yeovil

Main contractor Magrock has been appointed to deliver a new £16 million

David Lloyd **Leisure health** club at Bunford Park in Yeovil.



The project is due to complete next summer and will create a flagship health, fitness and wellness destination featuring a gym equipped with the latest fitness technology, multiple exercise studios, as well as indoor and outdoor swimming pools.

There will also be spa facilities that will include a Himalayan salt sauna, steam room, ice cave, plunge pool, hydrotherapy pool and an outdoor spa garden, reflecting David Lloyd Leisure's continued investment in premium health and wellness amenities.

Sports facilities will comprise two indoor multi-use courts, three tennis courts housed within an enclosed air dome, six outdoor padel courts

beneath a canopy-covered structure, an outdoor multi-use games area and an outdoor Battle Box exercise facility.

Situated within the Bunford Park development, the building has been designed around a steel frame supported by concrete pad foundations and enclosed with composite cladding panels.

Richard Brewer, Managing Director at Magrock, said: "We are delighted to have secured our first project with David Lloyd Leisure. This development represents a significant investment in the region, providing a first-class health, fitness and wellness destination for the local community and shows Magrock's appetite to move into the leisure sector."

Spades in the ground for major Coventry logistics scheme

Warehouse specialist contractor Glencar has commenced work on Unit 3C, a new 8,476m² Grade A industrial and logistics facility at SEGRO Park Coventry.

Located within the 215-acre industrial park, south of Coventry Airport, the wider scheme has outline planning permission for up to 343,700m² of warehouse accommodation.

The new facility has been pre-let to Volvo Group, and once operational, it will feature an automated storage and picking system, supporting faster and more efficient parts distribution.

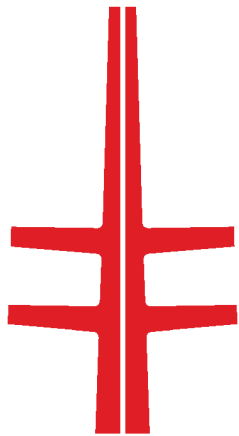
Designed to achieve **BREEAM** 'Excellent' and **EPC A**, the development will incorporate PV panels, rainwater harvesting, electric vehicle charging infrastructure and energy-efficient building systems, supporting SEGRO's commitment to low-carbon growth.

Chris Looney, Construction Director – Midlands and North at Glencar, said: "We're pleased to be working with SEGRO once again on another important industrial development. Delivering a third project together reflects the strength of our ongoing relationship and our shared commitment to creating



high-quality industrial, manufacturing and logistics facilities that meet the

evolving needs of customers and occupiers."



SSDA Shortlist 2026

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**38 Berkeley Square,
London**

Architect: Piercy & Co
Structural Engineer: Elliott Wood
Main Contractor: Mace Group Limited
Client: Berkeley Estate Asset Management



**334 Oxford Street,
London**

Architect: Allford Hall Monaghan Morris
Structural Engineer: AKT II
Steelwork Contractor: Severfield
Main Contractor: Bovis
Client: Capital Real Estate Partners



**The Bolt of Lightning,
Warrington**

Architect: Peter W Naylor
Structural Engineer: WSP
Main Contractor: D Morgan plc
Client: Miller Developments



**Sandyford House, Newcastle
upon Tyne**

Architect: GT3 Architects
Structural Engineer: JC Consulting and WB Engineers
Main Contractor and Client: Jomast



The Ribbon, London

Architect: Orms Architects
Structural Engineer: Heyne Tillet Steel
Steelwork Contractor: Billington Structures Limited
Main Contractor: Wates Construction
Client: CBRE



81 Newgate Street, London

Architect: Kohn Pedersen Fox Associates
Structural Engineer: AKT II
Steelwork Contractor: Severfield
Main Contractor: Mace Group Limited
Client: Pella Real Estate



BAE Govan, Glasgow

Architect: Corstorphine & Wright Architects
Structural Engineer: Robert Bird Group
Steelwork Contractor: Severfield
Main Contractor: McLaughlin & Harvey
Client: BAE Systems



Hill Dickinson Stadium, Liverpool

Architect: BDP Pattern
Structural Engineer: Buro Happold
Steelwork Contractor: Severfield
Main Contractor: Laing O'Rourke
Client: Everton FC 'The People's Project'



First Street, Manchester

Architect: Jon Matthews Architects
Structural Engineer: Ramboll
Steelwork Contractor: Elland Steel Structures Ltd
Main Contractor: BAM Construction Ltd
Client: Ask Real Estate Ltd



Fortnum & Mason Double Helix, London

Architect: Ben Pentreath Ltd
Structural Engineer: Format Engineers Ltd and Ramboll
Main Contractor: Portview Fit-Out Ltd
Client: Fortnum & Mason



Gairnshiel Jubilee Bridge

Architect: Moxon Architects Ltd
Structural Engineer: Arcadis
Steelwork Contractor: J&D Pierce Contracts Ltd
Main Contractor: Wills Bros Civil Engineering Ltd
Client: Aberdeenshire Council



Greycoat Stores, London

Architect: SPPARC and Veretec
Structural Engineer: Mason Navarro Pledge Limited
Client: LaSalle Investment Management



Manchester Airport Terminal 2 Reconfiguration

Architect: Pascall + Watson
Structural Engineer: Buro Happold
Steelwork Contractor: Leach Structural Steelwork Ltd
Main Superstructure Contractor: McCrory Holdings
Client: Manchester Airport Group



PUMA Flagship Store, London

Architect: Johnson Pinney Architects
Structural Engineer: Eckerstey O'Callaghan
Main Contractor: Goodman Hichens PLC
Steelwork Contractor: Malci Construction
Project Management: Mett Build
Client: PUMA UK Ltd



Stonecutter, London

Architect: TP Bennett
Structural Engineer: Thornton Tomasetti
Steelwork Contractor: William Hare Limited
Main Contractor: Mace Group Limited
Client: Ivanhoe Cambridge & Pimco Real Estate and CO-RE



Tan House Footbridge, Berkshire

Designer: Format Engineers Ltd
Structural Engineer: Format Engineers Ltd and WSP
Main Contractor: Balfour Beatty
Client: Network Rail



TBC.London

Architect: Stiff + Trevillion and ECE Architecture
Structural Engineer: Webb Yates
Structural Engineer (Donor Site): Civic
Main Contractor: Willmott Dixon
M&E Engineer: Atelier Ten
Client: FORE Partnership



The Jellicoe, London

Architect: Piercy & Company
Structural Engineer: Arup
Steelwork Contractor: Severfield
Main Contractor: McLaren Construction
Client: The King's Cross Group



The Whale on the Wharf (Skyscraper), London

Artist: StudioKCA
Structural Engineer: Thornton Tomasetti
Geotechnical Engineer: A-squared Studio
Main Contractor: DiveCo Marine Ltd
Client: CWG



Vyshhorod Bridge, Kyiv, Ukraine

Structural Engineer: Ukrainian State Road Research Institute
Steelwork Contractor: Cairnhill Structures Limited
Main Contractor: Dogus Insaat UK Limited
Client: Ministry of Regional Development and Construction of Ukraine



The Bakery Building, Dublin

Architect: AHMM
Structural Engineer: CORA
Steelwork Contractor: Steel & Roofing Systems
Main Contractor: PJ Hegarty & Sons
Client: Google Ireland Ltd



Steel creates modern future-proofed offices

The latest phase of expansion at the St John's Innovation Park in Cambridge is currently taking shape with the aid of steel construction.

Owned by St John's College, part of the University of Cambridge, the St John's Innovation Park is said to be the most established technology, life science and R&D hub outside of the famous city's central zone.

The 21-acre plot of land, which has been wholly owned by St John's College since 1534, provides a campus-style setting which has been operating since the first building was completed in the late 1980s.

The park is already home to a number of well-known organisations including Cambionix, DarkTrace and IESO Digital Health, but in order to keep pace with evolving office requirements and trends, a new phase of development has begun.

Currently, the development consists of two steel-framed buildings; a six-storey office structure, known as the Dirac Building (named after Paul Dirac, the pioneering theoretical physicist) and a transport hub, which includes a three-level car park and a gym. Both are set to transform the northern section of the park

and moving forwards, planning has also been secured for a second office block, which will have a similar design to the Dirac Building.

Suzie Wood, Head of Investment Property, St John's College, says the scheme represents the next chapter in a long-term vision for this crucial hub – providing much needed, sustainable, forward-thinking workspace in the north of the city.

The overall project is being undertaken by main contractor Volker Fitzpatrick, who have subcontracted the steel packages for each of the two buildings separately.

Hambleton Steel is fabricating, supplying and erecting the steelwork for the Dirac Building. The company's package also includes the placement of Easi-Edge protection to the perimeter steel members and lifting the metal decking packs onto the steelwork, in readiness for their installation.

Aiming to achieve a BREEAM 'Excellent' rating, the 7,896m² Dirac Building is said to combine high-

quality design with strong sustainability credentials, offering external terraces and a striking double-height reception. It will also feature rainwater harvesting, rooftop PV panels and premium internal finishes throughout.

Using a steel-framed method for the building's design has provided the scheme with an efficient and lightweight solution, as the material is a tried and tested framing option for commercial office schemes.

Modern offices invariably want long spans with no or very few internal columns, as this provides flexible open-plan space that can be easily subdivided to accommodate more than one tenant.

According to Ramboll Associate Jonathan Skinner, steel was chosen primarily for its long-span attributes that have increased the project's letting capacity.

"The building has internal column-free spans of up to 14.5m-long, which is a unique offering for the Cambridge market."

Within the Dirac Building, a centrally positioned concrete core, which provides the steel frame with its stability, provides a connection for a series of Westok cellular beams that radiate outwards to the perimeter columns, creating clear internal spans.

Westok Design Team Manager John Callanan says: "The Westok cellbeam offered the ideal lightweight solution for this scheme, with an optimised beam depth and provision of a full portfolio of cells for service integration across the full span.

"The engineer and steelwork contractor worked collaboratively with us to help fine-tune the design and detailing of the beams."

As well as accommodating the building services within their depth, the beams support a composite flooring solution of metal decking and a 130mm-thick

"The Westok cellbeam offered the ideal lightweight solution for this scheme, with an optimised beam depth and provision of a full portfolio of cells for service integration across the full span."



Offering modern, flexible office spaces, the Dirac Building's design features no internal columns.

concrete topping for each of the upper levels and roof.

The combination of the shallow slab and 619mm-deep cellular beams helps the scheme to maximise the number of floors the project is able to accommodate within the planning consent.

Looking back, the project's site was previously occupied by another office block, which was demolished a couple of years ago under a separate

The ground floor features a double-height entrance lobby.



contract. The current project team took over a cleared plot and preliminary works included the installation of a series of piled foundations for the Dirac Building.

As the Dirac Building will exert some significant loads, the piles are up to 17m deep.

According to project architect Sheppard Robson, the design of the building features a strong, simple architectural form, which is

FACT FILE

Dirac Building, St John's Innovation Park, Cambridge

Main client: St John's College

Architect: Sheppard Robson

Main contractor: Volker Fitzpatrick

Structural engineer: Ramboll

Steelwork contractor: Hambleton Steel (part of Embrace Steel)

Steel tonnage: 600t



Visualisation of the completed building and its planned neighbour.

animated by a series of external cutaways.

A prominent double-height cutaway at ground level communicates the entrance to the building, with the reception area designed to forge close connections to the adjacent new public square (which separates Dirac from the hub).

The double-height entrance is framed by a series of CHS columns, which will be left exposed and in full view within the completed scheme.

Another smaller incision within the steel frame creates a double-height balcony at second-floor level, while a third cutaway provides a fifth-floor terrace and an amenity space for tenants on the building's south-west corner.

All three of the building's cutaways have been formed with a transfer detail, including offset columns, designed within the overall steel frame.

As well as the foundations, the early works also included the installation of the concrete core, which then prepared the site for the main steelwork erection programme to commence.

Working on behalf of Volker Fitzpatrick, Hambleton Steel is erecting the steelwork in an eight-week programme, using a variety of mobile cranes and MEWPs.

"Speed is of the essence on all construction projects and this one is no exception," says Volker Fitzpatrick Project Manager Scott Reynolds. "A steel-framed option for both buildings provides the necessary speed of construction."

For the erection process, the Dirac Building's frame is divided into four phases that are installed to the full height of the structure. Once the steelwork in each phase is complete, the flooring contractor (Prodeck Fixing) takes possession of the area and installs the pre-placed metal decking.

Planning around logistics is always key to a successful project and on this job Hambleton Steel has had to work closely with the other team members.

Hambleton Steel Contracts Manager Martyn Wilson explains: "The site is very busy, with two separate structures under construction, and so laydown areas for materials are limited.

"This has been overcome by scheduling our deliveries of steelwork and decking around the site constraints and the availability of space."

The Dirac Building is due to complete in Spring 2027. ■



Reuse brings multiple benefits

Retaining much of the original structure and adding four new upper floors, 65 Gresham Street is one of the largest retrofit schemes in the City of London.

As the UK government strives to decarbonise the economy in order to meet its net zero target by 2050, reuse and recycle are increasingly seen as the way forward.

Most business sectors are being encouraged to make better use of existing materials and the construction sector's response has seen it adopt a number of initiatives, in particular retrofitting and refurbishing existing buildings.

This trend is on the rise (particularly in London) partly because planning departments, wary of schemes involving demolition programmes because of the associated embodied carbon, view it as an environmentally-friendly alternative.

Steel-framed buildings have proven to be ideal for redevelopment schemes, particularly in the office sector. Where developers are looking to add valuable extra floor space, steelwork's lightweight attributes make it ideal for forming structural extensions.

Quite often, the addition of new steel-framed floors can be achieved with minimal strengthening of the structure's original foundations and

superstructure, creating a cost-effective construction solution.

A case in point is 65 Gresham Street in the City of London, where an existing eight-storey steel-framed office building (built in the 1990s) is being redeveloped into a new 12-storey block. As well as adding four new lightweight steel-framed floors to the top, the entire existing structure is being reconfigured to include more floor space, external terraces and inset balconies.

Importantly, the reuse approach taken on this scheme means more than 80% of the existing building's structure is being retained and 95% of the materials are being recycled or reused, targeting a 65% reduction in whole-life carbon.

As well as increasing the lettable area by a minimum of 20%, the vision of the scheme is also to improve the architectural aesthetics, enable greater tenant customisation and develop a net zero carbon building with future-proofed sustainability built-in to a BREEAM 'Outstanding' level.

New structural steelwork has been used throughout the redevelopment to form the additional upper floors as well as to strengthen and

help reconfigure the existing steel-framed structure.

Slightly unusual for a major city-centre commercial scheme, this project has two steelwork contractors onsite. Severfield (working for Getjar under the project's enabling works package) is looking after all steelwork associated with the existing and retained structure, while William Hare (appointed by main contractor Mace Construct) is contracted to deliver and install the 'Blue Sky' new upper steel-framed floors.

"Having two steelwork contractors has actually been beneficial and ensures there is the necessary focus on both critical paths," explains Mace Construct Project Manager Grant Mills: "Severfield has predominantly worked in a top-down method, starting at the uppermost levels of the existing frame and initially completing the main interface between the two steel programmes.

"This meant that when Mace Construct started on site, William Hare was then able to begin its package as work continued below."

One of the most significant elements of the enabling works steel package has been the reconfiguring of the building's four concrete-

FACT FILE

65 Gresham Street, London

Main client: JP Morgan Asset Management

Architect: Squire & Partners

Main contractor: Mace Construct

Structural engineer: Buro Happold

Steelwork contractors: Severfield, William Hare

Steel tonnage: 1,000t

New steelwork

Extending the building upwards, William Hare is erecting a quantity of steelwork to create the four new upper levels of the project.

Arranged around the same grid pattern as the existing structure, meaning new columns are sat on top of old columns, the floorplates have internal spans of up to 13.5m-long.

Providing the structural stability for the new floors, the cores have all been extended to reach the new uppermost level.

Like the original building, the new floors are compositely formed with steel beams supporting

metal decking and a concrete topping.

The majority of William Hare's 'blue sky' steelwork springs off of the original building's roof level, with the only exception being the eastern (Aldermanbury) and northern (Love Lane) elevations.

On these two sides of the building, the top two floors (levels seven and eight) originally had setbacks, which have now been removed during the enabling and demolition phase. Stripped back to the primary grid, these areas have been infilled with new steelwork in order to create larger floorplates and a new terrace at level eight.

This terrace, along with another similar feature at level 10, have both been created with transfer beams located within the floorplate of the new steel frame. ■



V-shaped bracing struts redistribute loads to existing tension piles.



Cellular beams have been used to form the new upper levels.



In many areas, new steel columns are connected to existing steelwork.



How the building, originally built in the 1990s, will look following its redevelopment. ■

encased steel braced cores.

The cores provide stability to the steel frame and have had their steelwork strengthened to accommodate the extra imposed loads of the new and enlarged building.

Much of the steel strengthening work, around the cores and within the retained floorplates, involves over-plating **flanges and webs**. Where new steelwork has been installed, it generally connects to a **fin plate**, which has been welded to the existing steel frame. Completing this time-consuming work, Severfield has had up to 15 welders working onsite.

One core has been enlarged due to risers being relocated and the addition of new lift shafts. A series of 10m-long plate girders have been installed around the core on each floor level.

"Installing the girders for the two upper floor levels was one of the rare opportunities we were able to erect steelwork using a tower crane," explains Severfield Senior Project Manager Will Sharples.

"Further down the building, we had to introduce a splice to the girders. This meant that each 5m-long section was threaded through the existing structure via the Canti-deck and then

manoeuvred with small track levellers."

Elsewhere, strengthening work has also been carried out around a ground and first-floor atrium that has been infilled to create more floor space, while the entrance has been enlarged to include a feature staircase.

As well as installing new steelwork during the enabling and demolition programme, a quantity of existing steel has also been removed and reused on other projects by Getjar, helping to enforce the circular economy.

On a project like this, balancing the structural loads and making sure the existing foundations are sufficient for the new building is key.

"We managed to significantly de-risk the project by moving large additional loads away from the perimeter columns that were difficult to strengthen," says Buro Happold Associate Director Hannah Keen.

"We achieved this by introducing a series of propped cantilevers in the framing of the new upper floors to move loads away from the perimeter to the centre columns that were a lot more accessible and thus easier to strengthen,

"Having two steelwork contractors has actually been beneficial and ensures there is the necessary focus on both critical paths."

including their foundations.

"While the addition of new V-shaped **bracing struts** (in basement level two) to redistribute additional loads to existing tension piles has also enabled the foundation interventions to be significantly reduced."

Representing the largest steel elements of Severfield's package, there are a total of seven bracings, positioned within the central zone of the building.

Each of the storey-high bracings was delivered to site in transportable sections, including a 2t node, the two connecting beams forming the V, and a fourth beam that is installed beneath the floor slab of basement level one.

65 Gresham Street is due to complete in Spring 2028. ■

Top of the class

Steel construction is playing a leading role in the redevelopment of Cumbria's historic Appleby Grammar School.



The new block will be linked to the existing school via covered walkways.

The market town of Appleby-in-Westmorland's historic grammar school is undergoing a major makeover, with the centrepiece of the works consisting of a new three-storey steel-framed 'superblock'.

The new standalone building will house classroom space, laboratories, kitchens, offices, staff areas, technology rooms, a dining hall, as well as a multi-purpose main hall.

Replacing three 1960s-built structures (two of which were demolished to make way for the new build, while the third will be knocked down later in the programme), the construction marks an important milestone in the transformation of the school estate.

The project also includes the refurbishment of the school's original Grade II listed Victorian era

building, along with the 1920s-built science block (which will be reimagined to house new music practice rooms that were previously in one of the demolished structures). Both of these existing structures will be linked to the new superblock via a new steel-framed covered walkway.

The steel-framed superblock has been designed to enhance learning environments, reduce overcapacity, while respecting the historic fabric of the site. A steel option for the new build was chosen as it offers the quickest and most efficient construction method.

Jane Taylor, the school's Chair of Governors, says: "Appleby is a close-knit community that is often on the fringe of developments such as this; we have worked with representatives from the DfE to ensure that the students and the community as a

FACT FILE

Appleby Grammar School, Cumbria

Main client: Department for Education

Architect: Space Architects

Main contractor: Morgan Sindall

Construction

Structural engineer: Curtins

Steelwork contractor: Shipley Structures

Steel tonnage: 260t



The new 'superblock' is a three-storey structure designed around a regular column grid pattern.



A truss, spanning the atrium, will support a sliding door that will allow the space to be subdivided into two areas.

whole have sustainable school buildings and a site that they can be proud of.

"Our students and staff deserve the best learning environment we can provide and the governors are delighted that the DfE is committed to the future of our school in this way, the impact of the works will be incredible for everyone in the locality. The new school buildings will also be net-zero carbon in operation, helping meet the government's net zero target."

Once the new building has been completed in summer 2027, the school will decamp into its new premises (in time for the new autumn term), freeing up the site for main contractor Morgan Sindall to commence the final phase of work. As well as demolishing one final structure and refurbishing the two retained buildings, the company will also create a new car park and school entrance, as well as completing a full re-landscaping of the site.

Alongside this, the plans include a new multi-use games area, improvements to hard play spaces, and the retention of the school's tennis courts and playing fields.

Nick Corrigan, Morgan Sindall Area Director for



"Our students and staff deserve the best learning environment we can provide and the governors are delighted that the DfE are committed to the future of our school in this way, the impact of the works will be incredible for everyone in the locality. The new school buildings will also be net-zero carbon in operation, helping meet the government's net zero target."

the northeast and Cumbria, comments: "Appleby Grammar School is situated on a historic site, with roots reaching back to the 15th century, so it is an immense pleasure to preserve some of its rich history through the Grade II listed main building, which is to undergo sensitive restoration as part of our works. We are also delighted to provide the local area with a new state-of-the-art, future-proof block to serve the school for generations to come."

With the exception of school holidays, the entire construction programme is being undertaken within a 'live' environment, with staff and pupils occupying the remaining buildings. The project team has been mindful of this and limited any excessive noise or disruption, particularly during exam times.

The school also includes a retained sports hall, which remains in use by pupils and the local community, throughout the redevelopment programme.

Following on from the initial demolition phase, which cleared the plot for the new superblock, the land was remediated and piled foundations, up to 15m-deep, were installed.

Steelwork contractor Shipley Structures was



The upper levels are compositely formed with metal decked floors.

then able to begin its steel erection package, which was completed in a six-week programme using a single 60t-capacity mobile crane. As well as fabricating, supplying and erecting the project's main steel frame, the company's package also included the installation of the perimeter edge protection and arranging for specialist subcontractors to carry out the design, detailing and manufacture of the precast lift and riser shafts, and two precast staircases.

As the steel frame wraps around the precast elements, they were installed, by Shipley Structures, prior to the steelwork being erected. However, the lift and riser offer no stability to the steelwork as this is derived from bracings, strategically-positioned around staircases and in areas where there are no doors or windows.

Based around a regular column grid pattern, the three-storey structure includes a series of teaching rooms that are accessed via an internal corridor that wraps around three sides of an internal full-height atrium. This large void will accommodate the main hall and its open-plan design is formed by a series of 12.2m-long roof beams, each weighing 1.85t. The roof beams are supported by columns that are up to 13.5m-tall, which were brought to site in one piece.

Either side of the atrium roof, further beams span over the teaching spaces and will support a roof top plant deck.

Creating the desired multi-use zone, a sliding door will be installed, allowing the hall to be divided in two. The door will be connected to a 12.2m-long steel truss, which spans the hall at the underside of second floor level.

The 1.1m-deep truss, which was delivered to site in one piece, weighs 2.5t and was the heaviest steel element on the entire project.

The building's ground floor is a concrete slab, supported by the piled foundations. The first and second floors as well as the roof are compositely formed, with steel beams supporting metal decking and a concrete topping.

On the western side of the building, where there are no teaching spaces abutting the main hall, there is another large open-plan area accommodating the dining hall. Designed as a lean-to structure, this double-height space is formed with a series of 7.5m-long roof beams.

The Appleby Grammar School redevelopment is due to be complete by the end of 2028. ■



Stability-giving bracing is located around stairs, risers and in some corners.



A moveable partition will allow the atrium to be a multi-use area.

Designing efficient truss joints

For the redevelopment of the Appleby Grammar School, a truss was used to provide the long spans required for the open-plan layout. Bogdan Balan of the SCI discusses design approaches for truss joints that can improve structural efficiency and sustainability performance.

Truss joints are often the most challenging aspect of truss design. The geometry of the truss, the magnitude of the forces and the orientation of the members all influence the form and complexity of the connections. A fundamental part of achieving an efficient joint design is understanding how forces flow through the node. This can only be achieved when the forces provided for connection design are in equilibrium. Where only envelope forces are supplied, the designer's ability to develop an efficient and economical connection is significantly reduced.

In many trusses constructed from open sections, the sections are often arranged with the webs vertical and with the diagonal members having smaller sections than the chords. This arrangement leaves the connection designer to determine how the member forces will be

transferred through the joint, often between elements that meet at right angles. Joint zones are subjected to complex stress distributions and may require additional reinforcement, such as stiffeners or doubler plates. In some cases, increasing the member size may be a more efficient solution than adding local reinforcement. Seeking a minimum weight solution should not be taken to extremes as this can result in extensive reinforcement requirements at the joints.

Rotating the members so that their flanges are vertical provides a more direct load path for flange tension forces. The node connections can then be formed using butt welds between flange edges, creating a smoother and more direct transfer of force through the joint. This alternative approach to the design of major truss nodes was discussed in New Steel Construction (October 2019). {ref:

<https://www.newsteelconstruction.com/wp/connection-design-in-trusses/>}

A refinement of this detail is to form the node from two plates connected by intermittent webs. The plates should be sufficiently wide in the central region of the joint to carry half of the chord force, so that webs are required only in the vicinity of the connecting member to transfer web forces into the plates.

An efficient solution is likely to require an iterative process of checking joint resistances, revising member sizes and re-analysing the structure. This approach helps balance structural performance, fabrication complexity and cost. Careful consideration of member selection and orientation at an early stage can reduce the need for expensive local reinforcement and lead to a more efficient overall design. ■



Make sure your
Steelwork Contractor
is RQSC approved

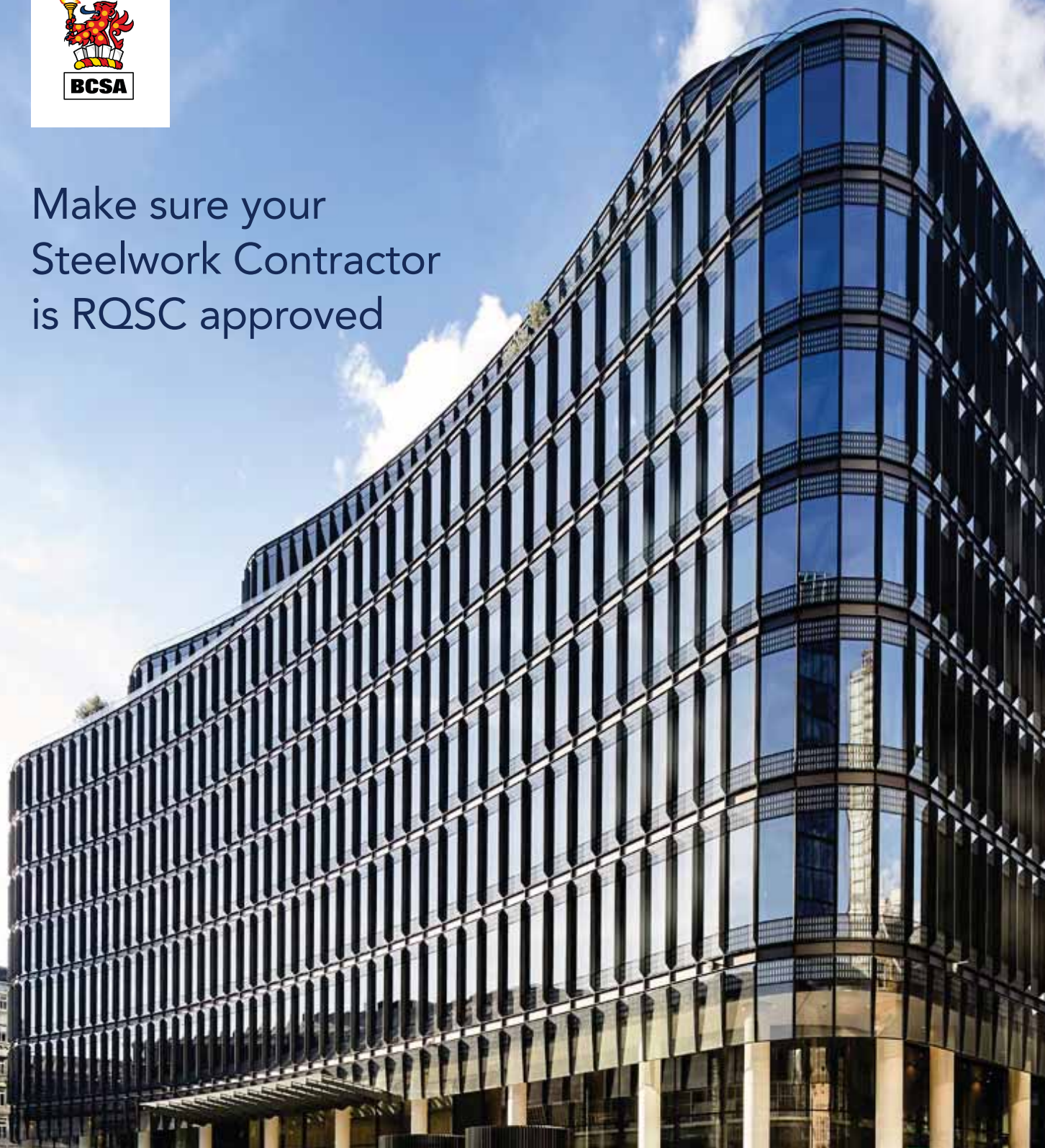


Image courtesy of William Hare Limited

Specify an approved company from the Register of Qualified Steelwork Contractors for Buildings, to ensure your project meets the Building Safety Act requirements. As of October 3rd 2023 it became mandatory in the NSSS 7th edition, 1st Revision that all Steelwork Contractors are RQSC approved.

Tel: 020 7839 8566

Email: postroom@bcsa.org.uk

Web: www.bcsa.org.uk/buildings-directory



The Register of
Qualified Steelwork
Contractor
Buildings



The new facility is accommodated within a two-storey steel frame.

Landmark leisure scheme

Residents in the Kent coastal town of Deal will get a significant leisure and wellbeing boost when the brand-new Deal Leisure Centre opens in 2027.

As many of the nation's leisure centres were built more than 40 years ago, a gradual redevelopment process to replace old and tired facilities is taking place across the country.

An example of this work is currently being undertaken for Dover District Council in Deal, Kent, where a £20.4 million [leisure centre](#) is being delivered by a team led by Alliance Leisure.

Replacing a 1980s-built swimming pool hall and reception area, the new two-storey centre will deliver modern facilities that inspire active living and bring the community together. Energy efficiency is at the forefront of the design, including air source heat pumps, roof-mounted solar panels and energy-saving LED lighting throughout.

Taking inspiration from its location, the interior of the completed building will feature plenty of timber panelling (referencing Deal's pier) and finishes that symbolise a connection to the town's

historic castle.

Procured through the UK Leisure Framework, owned and managed by Denbighshire Leisure, the new-build will have a six-lane swimming pool, splash pad, a fully equipped gym, two multi-use studios, a group cycling studio and a café overlooking the pool.

Adding to the Deal Leisure Centre's overall offering, the completed centre will be linked to an existing sports hall and will sit adjacent to a retained indoor tennis centre.

Steve Winter-Rose, Business Development Manager at Alliance Leisure, says: "Over the last 25 years, Alliance has worked with councils across the UK to deliver hundreds of leisure projects, from community pump tracks and 3G pitches to major new-build facilities. Every project benefits from the learnings of the past, helping us to deliver unique environments that are resilient, efficient and designed to meet the specific needs of the communities they serve.

"Leisure centres are the heartbeat of any community. When Deal's new centre opens in 2027, it will give local people a place to be proud of, a place that inspires movement, connection and wellbeing for generations to come."

Main contractor for the steel-framed centre is Pellikaan Construction, a company that specialises in sport and leisure facilities, and recently celebrated 40 years of working in the UK.

Its design and build ethos for such projects invariably involves the use of steel, in order to achieve the [speed of construction](#) and the long [column-free spans](#) leisure and sports clubs require.

For this job, steelwork contractor Adstone Construction has fabricated, supplied and erected 350t of steel. Using a single 60t-capacity mobile



For speed of construction, the first floor and roof are both formed with metal decking.

crane, the entire steel frame was up in under four weeks. Along with the steelwork, Adstone also installed the building's precast lift shaft and staircases.

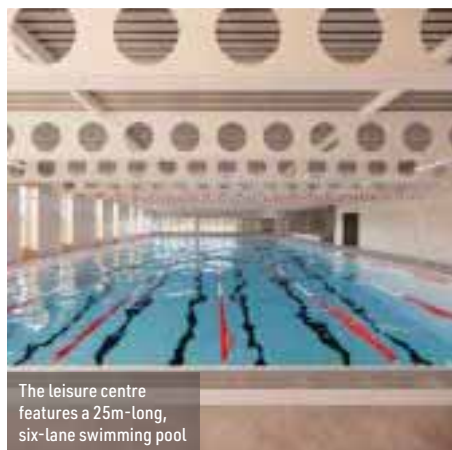
The steelwork wraps around the precast elements, but gains no stability from the structurally independent units. The main frame's stability is derived from cross bracing, strategically located around the perimeter (forming braced bays) where there are no windows or doors.

"In preparation for the steelwork erection, we initially demolished the old pool building, crushed and reused (onsite) the structure's concrete material, and installed over 500 vibro piles for the new build's foundations," explains Pellikaan Construction Project Manager Andrew Laslett.

The company also excavated and formed the new 25m-long swimming pool's substructure before the steel frame was begun.

The new build is based around a regular perimeter (7m) column spacing, with the underside of the first floor featuring a series of 20m-long x 1m-deep Westok beams that span over the main pool.

The Westok cellular beams provide an efficient and lightweight solution to form the pool's column-free space. The 1m-deep beams boast



The leisure centre features a 25m-long, six-lane swimming pool

FACT FILE**Deal Leisure Centre**Main client: **Dover District Council**Architect: **GT3 Architects**Main contractor: **Pellikaan Construction**Structural engineer: **Engenuiti**Steelwork contractor: **Adstone Construction**Steel tonnage: **125t**

"It's fantastic to see another of our leisure centre schemes on site. Once again, the Westoks will be left exposed, helping to create an aesthetically-pleasing environment."

700mm-diameter cells and have been pre-cambered to eliminate the risk of excessive dead load deflection.

John Callanan, Westok's Design Team Manager comments: "It's fantastic to see another of our leisure centre schemes on site. Once again, the Westoks will be left exposed, helping to create an aesthetically-pleasing environment."

In order to protect the steelwork from the pool hall's corrosive environment, the cellular beams along with their supporting columns (as well as the steel frame in the wet changing rooms) have all been hot-dipped galvanized.

Alongside the entrance lobby, café and pool hall, the remainder of the ground floor accommodates offices, wet changing rooms and toilets, and plant rooms.

The first floor of the building follows a similar column grid pattern as the lowest level. The area directly above the main pool accommodates a fitness suite and spin studio, within another column-free zone.

"Vibration could have been an issue for the gym, but the choice of 1m-deep beams over the pool hall creates a sufficiently stiff floor," explains Engenuiti Associate Director Steve Peet.

The rest of the upper floor is occupied by two

studios, dry changing facilities and a plant room.

The first floor and roof of the building have been compositely formed with steel beams supporting metal decking and a concrete topping. This method was chosen as it offered a quicker installation than alternative flooring solutions.

Summing up, Matt McCreith, Senior Architect at GT3, says: "We're delighted to be working with Alliance Leisure on another key community project. Inspired by the much-loved existing centre, we've worked closely with stakeholders

to carry forward its warmth and character, while creating a modern, welcoming space for everyone to enjoy.

"We want the new building to be the cornerstone that ties the existing tennis centre and sports hall elements together; our clear circulation journey knits new and existing, with a strong focus on providing accessible facilities and flexible areas for fitness, social activity and wellbeing. The new Deal Leisure Centre will provide a state of the art, broader offer to the community." ■



Visualisation of the completed landmark Deal Leisure Centre.

Steel framed recycling



Named as England's top recycling city, Milton Keynes is constructing the first of two new and improved steel-framed reuse and recycling centres that will make it easier for residents to dispose of waste.

"I don't think we could have built the canopy and gantry frame with any other material other than steel, especially not in the timeframe in which this has been fully erected."

Official figures show that in the last year (2024-25) Milton Keynes' residents dropped 22,300 tonnes of waste and recycling to the city's recycling centres, making it the top performing city in the country.

Statistics show that 63.2% of the city's household waste was either recycled, reused or composted. This is impressive, as the national average is 43.8% and just six councils achieved more than 60%.

Recycling saves energy, reduces waste and helps tackle climate change. In Milton Keynes, very little waste goes to landfill and in most months, nothing is sent as the council says it uses material that cannot be recycled to generate electricity, which powers many of its vehicles.

Driving sustainability even further, Milton Keynes City Council is currently constructing a new Reuse and Recycling Centre at Wolverton, the first of two planned facilities.

Cabinet Member for Public Realm, Councillor

Jennifer Wilson-Marklew, says: "We need modern facilities that keep up with demand and give local people a better experience. These centres will be easier to use, more efficient and more sustainable, and we're investing in this infrastructure now so that Milton Keynes people get the benefits for many years to come."

Designed by TMV Architects, the Wolverton facility will feature step-free, split-level access, improved signage, and clear separation between public areas and heavy vehicle movements.

Structural steelwork is playing an important role, as the important split-level is incorporated into a 70m-long steel-framed canopy that forms the centrepiece of the facility.

Beneath the canopy, a series of eight 6m-long x 2m-wide platform gantries are arranged along the length of the structure, creating easy access for customers at the upper level to directly deposit items into containers, which are located on the lower level. Either side of each gantry, there are 6m-wide

bays that can accommodate two refuse containers.

Gaining some support from a retaining wall that creates the two-level plot, the gantries are each supported by four columns, which are concrete encased at the lower level to protect them from any potential vehicle or container impact.

The gantries are formed with two outer beams and a series of cross members, spaced at 1.2m centres, creating a ladder formation. The frame supports a steel mesh flooring system.

The gantries and a walkway above the retaining wall (in between each gantry) are surrounded by a protective balustrade, which was fabricated by HBE Services, along with the main steel package.

The supporting columns extend upwards above the gantries floor level, by up to 9m, to support the steel frame's canopy roof. The completed roof will create a weatherproof environment for the facility's users, while also ensuring the waste containers do not get filled-up with rainwater during heavy downpours.

FACT FILE**Wolverton Reuse and Recycling Centre**

Main client: Milton Keynes City Council

Architect: TMV Architects

Main contractor: Ashe Group

Structural engineer: BCAL Consulting

Steelwork contractor: HBE Services

Steel tonnage: 56t



A steel-framed option was used for its speed of construction.



HBE Services has laser cut the client's name and logo into each of the gantry's surrounding balustrades.



The column's lower sections are concrete encased to protect them against vehicle impact.



Overall, the canopy structure is 70m-long and accommodates eight gantries.

The canopy roof is pitched by 10 degrees and slopes down towards the lower level side of the steel frame. Taking advantage of the potentially open rooftop space and increasing the site's sustainability credentials, the roof will support an array of photovoltaic panels.

HBE Services has also installed 612m² of single-skin cladding to the canopy roof.

The majority of the stability for the steel frame is provided by roof level cross bracings, positioned within each of the 6m-wide bays. Formed from three tubular members (one full length member and two shorter sections), each bracing section was workshop welded prior to being delivered to site.

Because the steel frame is entirely outdoor and will be subjected to all types of weather, it has been fully galvanized. The hot-dip galvanizing process not only protects the steelwork against potentially harsh conditions, but also knocks and dents from customers or vehicles that would otherwise go rusty.

Construction programme

Due to open this coming October, the entire construction programme for the facility will be completed in just 20 weeks.

The site was previously a council-owned service yard and one of the initial tasks for main contractor Ashe Group was to rip up the asphalt and concrete slabs. The company then began some extensive groundworks to create the site's two levels.

An access route has been created for trucks to enter and leave on the lower level, while above, residents will access the site via their own dedicated entrance. This will lead into a one-way vehicular system, with parking and unloading areas, as well as a zone for the disposal of large electrical and white goods.

While the groundworks were progressing, a series of pad foundations were installed for the steel columns. The completion of this work allowed the steel erection to start.

Using a single 60t-capacity mobile crane, positioned on the lower level of the site, all of the steelwork was installed in two weeks.

HBE Services' Contracts Manager Mike Harding, says: "Logistics, planning and coordination played a key role in the successful completion of the steel package."

"Working from one end of the site to the other, our steel erectors worked and installed the steelwork by following on behind the groundworkers, who were preparing the plot and constructing the retaining wall."

The metalwork (balustrades) was completed in a further two weeks, while the roof cladding was fully installed in just a week.

Summing up, Ashe Group Construction & Technical Director Daniel Armes, says: "I don't think we could have built the canopy and gantry frame with any other material other than steel, especially not in the timeframe in which this has been fully erected." ■

The provision of shear connectors in composite beams – some code comparisons and subtleties

In this article, Dr Graham Couchman of SCI discusses how design rules have evolved despite the product apparently not changing, and what that means in terms of the provision of studs on a beam. He also identifies some subtleties that could be missed by the designer when specifying studs for use with transverse trapezoidal decking, including their specification to the new Eurocode 4.

Shear connection between steel and concrete elements in composite beams used in buildings has been achieved using 19mm diameter welded headed shear studs for as long as anybody can remember. During that period, for UK design, codes have changed from BS 5950-3.1:1990¹, to BS EN 1994-1-1:2004², to BS EN 1994-1-1:2026³ (published by BSI earlier this year but will not 'replace' the earlier document until Spring 2028).

Codified rules have changed, but how much has the physical outcome changed?

A recent Advisory Desk enquiry from an SCI member still designing composite beams to BS 5950-3.1, which initially concerned us, prompted us to carry out the study described below. Rules for minimum degree of shear connection ensure that enough studs are present on a beam to prevent excess slip between the steel and concrete elements. If we compare the rules for minimum degree of shear connection provided in different codes, and similar guidance, we see some significant differences. These are partly because BS 5950 and Generation 1 Eurocode 4 only recognised three variables, namely span, section asymmetry and steel grade. It should be noted that in order to show historical trends we are not here considering the 2010 Amendment 1 to BS 5950-3.1 which added less onerous rules for so-called 'higher ductility shear connectors' in clause 5.5.2.3, although we note in passing that not all software seems to have picked up this amendment. SCI publication P405 *Minimum degree of shear connection rules for UK construction to Eurocode 4*⁴, and subsequently the Generation 2 Eurocode, took this to another level, also recognising the importance of degree of utilisation in bending, whether construction is propped or not, and that decking orientation affects stud slip capacity. Figure 1 shows minimum degree of connection vs span for BS 5950-3.1:1990, and Generations 1 and 2 Eurocode 4. For clarity, only the case of a symmetric steel section, in S355 steel, with transverse trapezoidal decking (assuming 10mm slip capacity for 'higher ductility' studs) is shown. Figure 2 shows the full suite of curves for Generation 2 Eurocode 4 alongside those from P405, assuming a beam utilisation in bending of 80%. The absolute (span-independent) lower bound shown for Generation 2 Eurocode 4 assumes D2 connectors. This could drop to 30% were D3 connectors used, however, research undertaken as part of the development of the new Eurocode suggests higher strength concrete might be necessary to achieve D3 (not less than 10.0mm). As these limits have no scientific basis this subject is discussed no further, but they can cause real problems for mid-range span beams so going as low as possible can be beneficial.

However, the different codes also define different stud resistances, and different effective concrete flange resistances. Given that degree of shear connection is defined as the number of studs provided divided by the number needed to achieve maximum compression in the concrete flange (which may be limited to the maximum tensile capacity of the steel beam), all these variables need to be taken into account to correctly compare codes. That is what Liam Dougherty of SCI has done to create the numbers shown in Table 1, considering the real metric of 'how many studs do you need on a beam to satisfy the minimum degree of shear connection rules'? Results for S275 steel

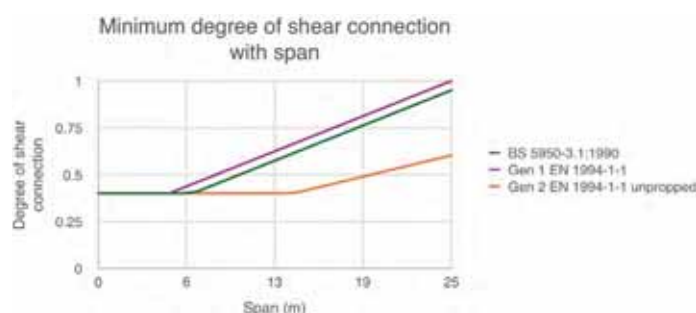


Figure 1: Minimum degree of shear connection according to BS 5950-3.1, BS EN 1994:2004, BS EN 1994-1-1:2026 for an S355 symmetric section with 10 mm slip capacity studs

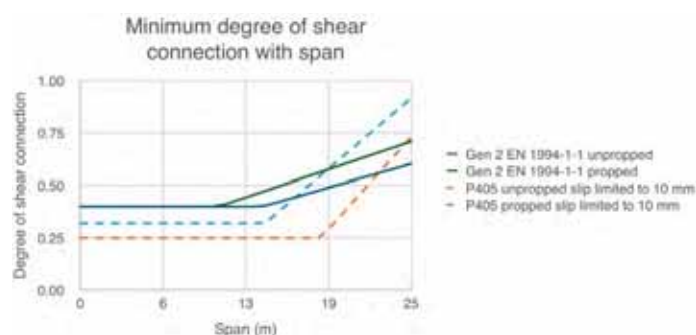


Figure 2: Minimum degree of shear connection according to Generation 2 Eurocode 4 and P405 for a range of variables

are included because such steel was the primary choice when the BS 5950-3.1 rules were developed. Results for Generation 2 Eurocode 4 are included even though they could only be justified, according to the code, by using longer studs (115mm with 60mm deck and 135mm with 80mm deck) than we assumed for the other cases. For these examples we did not increase the slab thicknesses in order to retain sufficient cover to the studs, but this could be a knock on effect of needing longer studs (clause 8.6.10.2(2) generally requires 15mm minimum cover, and practically there will be deviations in level to accommodate). The reason for needing a greater length is discussed further below.

Our conclusions from Table 1 are that, for both spans, BS 5950 and Generation 1 Eurocode 4 give similar result in terms of number of studs needed. For all the longer span cases they require a number of studs that could not be accommodated. Eurocode Generation 2 is generally a marked improvement on Generation 1, notwithstanding the need to use longer studs. P405 allows the use of significantly fewer studs, even compared to Generation 2, but for the 9m span the studs required in all cases could be accommodated anyway, so this is a small gain. For the longer span examples the P405 and Generation 2 improvements are very significant.

Although not evident from the table, this study did reveal something about

Section	406x140x46	406x140x46	406x140x46	406x140x46
Grade (m)	S275	S275	S355	S355
Length (m)	9	9	9	9
Slab thick (mm)	130	130	130	130
Concrete grade	C25/30	C25/30	C25/30	C25/30
Deck depth (mm)	60	60	60	60
Studs possible	1/trough - 15	2/trough - 30	1/trough - 15	2/trough - 30
Studs req. Gen 1	10	18	15	26
P405 ^{1,2}	7	12	7	13
BS 5950	10	18	15	27
Gen 2 ²	11	20	11	20

a) 9 m span beams in two steel grades

Section	684x254x140	684x254x140	684x254x140	684x254x140
Grade (m)	S275	S275	S275	S275
Length (m)	16	16	16	16
Slab thick (mm)	130	130	150	150
Concrete grade	C25/30	C25/30	C25/30	C25/30
Deck depth (mm)	60	60	80	80
Studs possible	1/trough - 26	2/trough - 52	1/trough - 26	2/trough - 52
Studs req. Gen 1	31	55	45	92
P405 ^{1,2}	12	22	19	39
BS 5950	33	61	45	83
Gen 2 ²	24	40	25	52

a) 16 m span beams in S275 two decking/slab depths

Section	684x254x140	684x254x140	684x254x140	684x254x140
Grade (m)	S355	S355	S355	S355
Length (m)	16	16	16	16
Slab thick (mm)	130	130	150	150
Concrete grade	C25/30	C25/30	C25/30	C25/30
Deck depth (mm)	60	60	80	80
Studs possible	1/trough - 26	2/trough - 52	1/trough - 26	2/trough - 52
Studs req. Gen 1	35	62	51	104
P405 ^{1,2}	12	22	18	36
BS 5950	38	72	53	98
Gen 2 ²	21	36	23	46

a) 16 m span beams in S355 two decking/slab depths

- 1 Detailing rules in P405 require at least one stud per trough, which may be more than that required to meet the minimum degree requirement.
- 2 Generation 2 Eurocode results should be treated as indicative because they depend on several variables for which we have made assumptions. These results are also only valid for studs that are longer than assumed in the other cases.

Table 1: Minimum number of shear studs needed on example beams according to different codes and guidance.

BS 5950-3.1 that designers using that code (which we would not advocate) should be aware of. The software we used to run these examples appears to have misapplied the code requirements (as well as [conservatively] ignoring the 2010 amendment). The problem is that BS 5950-3.1 Table 5.1 giving solid slab resistances only covers studs up to 100 mm high. However, when its rules (5.4.7.2) are used to determine the reduction in resistance due to the presence of decking, the nominal height of the stud should be used. The software in question does not allow a height greater than 100 mm to be specified (presumably driven by Table 5.1), and is therefore very conservative.

Words of warning about Generation 2 Eurocode 4

It has been recognised for some time that the way trapezoidal decking has evolved since the early 1990s had made codified rules for stud resistance in transverse decking unconservative. This evolution of shape took place in order to reduce the volume of concrete in a slab, given that the ability of the decking to support the wet concrete during construction often dictates composite slab design. Unfortunately the loss of concrete can also reduce stud resistances. Work undertaken at SCI 20 years ago addressed this problem, leading to the publication of P405. It was also highlighted as something to address when the new Eurocode 4 was being developed. To define new rules a mechanical model was developed at the University of Luxembourg, to try and predict stud resistance. Prediction was previously done through testing and it was hoped a model would have broader application. The model is based on plastic hinges forming near the base of the stud, and at the point where it extends above the decking into the solid part of concrete (Figure 3).



Figure 3: Failed stud in transverse trapezoidal decking (courtesy University of Luxembourg)

Although using rules based on a mechanical model may be more logical, during the code development process there was a demand to retain the previous approach of reducing the solid slab resistance using a factor k_t to keep things simple for designers, where the results of such an approach could be shown to be acceptable. EN 1994-1-1:2026 therefore presents both approaches, with the model-based rules given in Informative Annex G (which the UK is almost certain to reject). Unfortunately, during the re-validation of the reduction factor approach a subtle change was deemed necessary, which is to increase the required embedment length of stud above the decking. A dimension of $2.0d$ in the Generation 1 document was extended to $2.7d$. The variable d is the stud diameter, so for 19 mm studs, 38 mm went to 51mm. ➔29

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Figure 4: Discontinuous decking with crushed ends (courtesy of Kingspan)

That means that typical UK construction using a 100mm stud with 60mm decking can no longer be designed using the simple k_t approach – a subtlety that may be missed by users of the new code.

With Annex G very likely to be rejected, and the reduction factor rule not applicable to much typical UK practice, where does that leave us? Thankfully there are two options.

- BS EN 1994-1-1:2026 explicitly states that test-based values can be used as an alternative. That means existing SCI guidance such as P405 can continue to be used.
- An alternative Annex G is being developed by Prof Stephen Hicks at the University of Warwick, that should provide more robust results than those given in either part of the code.

When is transverse decking not transverse decking?

The discussion above relates to studs used in conjunction with transverse trapezoidal decking. In many cases (at least in the UK) the decking will be continuous across the beam flange, and the studs will be through deck welded.

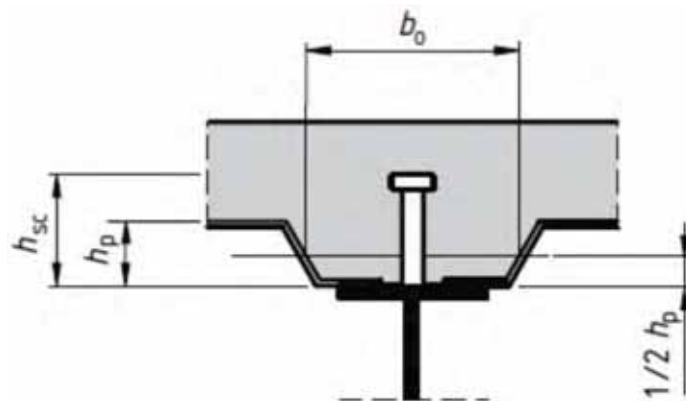


Figure 5: Shear stud in parallel decking (from BS EN 1994-1-1, Figure 6.12)

Making the decking continuous is beneficial because it reduces its deflection under wet concrete, and has process benefits. However continuity is not always the case – separate spans of decking may be used either side of the beam, often with so-called crushed ends (Figure 4). When this approach is adopted it means the detrimental impact of the voids ‘ahead’ of the studs, that the k_t factor is supposed to reflect, is not present. Depending on the geometry of the crushed ends, flange width and decking depth, the stud may then find itself in a situation more like that of a stud with parallel decking (Figure 5). It may then be appropriate to adopt the parallel decking reduction factor k_t , which often results in no reduction from the solid slab resistance. When using software designers should be aware of this, as some software does not recognise the difference between continuous and discontinuous decking and so penalises the stud resistance. Such penalisation could result in an erroneous failure to satisfy minimum degree of connection.

Conclusion

The shear stud is wonderfully simple, and simply wonderful (in that it can double the resistance of a steel beam and increase the stiffness threefold). But designers should be aware of some complexities and subtleties when designing composite beams. ■

References

1. BS 5950-3:1990 Design in composite construction. Code of practice for design of simple and continuous composite beams. BSI, 1990
2. BS EN 1994-1-1:2004 Eurocode 4: Design of composite steel and concrete structures. General rules and rules for buildings BSI, 2004
3. BS EN 1994-1-1:2026 Eurocode 4: Design of composite steel and concrete structures. General rules and rules for buildings BSI, 2026
4. COUCHMAN, G. Minimum degree of shear connection rules for UK construction to Eurocode 4 (P405) SCI, 2015

AD 559: Typographical errors in AD 471

An SCI member has identified typographical errors in AD Note 471. The corrected expressions are given below:

Columns subjected to axial compression:

The strut moment at the splice position between points of inflexion is given as:

$$M_{i,FB,sp} = \sin\left(\pi \cdot \frac{x}{L}\right) \cdot M_{i,FB}$$

The term $M_{i,FB}$ should refer to the maximum second-order bending moment due to strut action

between the points of inflexion. The correct expression is therefore:

$$M_{i,FB,sp} = \sin\left(\pi \cdot \frac{x}{L}\right) \cdot M_{i,FB,max}$$

Unrestrained beams subjected to bending moments:

The second-order moment at the splice position between points of inflexion is given as:

$$M_{z,FB,sp} = \sin\left(\pi \cdot \frac{x}{L}\right) \cdot M_{z,LTB,max}$$

The left-hand side of the equation should refer to

the second-order moment due to lateral-torsional buckling at the splice position. The correct expression is therefore:

$$M_{z,LTB,sp} = \sin\left(\pi \cdot \frac{x}{L}\right) \cdot M_{z,LTB,max}$$

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Retail World – Rotherham

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Rotherham's Parkgate project is one of the largest retail centre developments ever undertaken in the UK, covering 115 acres of derelict industrial land now designated as an enterprise zone. A joint development between Rotherham Metropolitan Borough Council and Stadium Developments Ltd, it is an ambitious scheme which will effectively shift the focus of retail shopping away from the existing town centre to this vast new site north of town.

Currently, the first phase of the project is concerned with Retail World, comprising large-scale retail warehousing for 19 tenants including MFI, Texas, Queensway and other leading national chains. Yet this represents only one area of the 115 acre Parkgate plan, which will ultimately have another integrated 1 million sq ft shopping mall, cinema, garages and total space for 10,000 cars.

All of the four blocks so far released have been awarded to the Marshall Construction Group. Similarly, the structural steelwork, roof and wall claddings are being earned out by Henry Barrett & Sons Ltd, of Bradford.

In Retail World alone, Barrett's Steel Building Division will erect 19 single-storey portal frame units ranging in size from 7,000 to 50,000 sq ft, and totalling over 420,000 sq ft. The Big-gins Sargent Partnership has designed an architectural scheme utilising a series of glazed colonnades set forward of the warehouse frontage, with intermediate trees, shrubs and gardens to soften the strong facade. A uniform cladding design provides continuity of theme, with the portal entrances of individual units giving the tenant's identity.

The sheer size of the steelwork project is remarkable enough, but is complicated by nineteen tenants each having different

structural requirements. Consequently, Barrett's design capacity has been truly tested, yet the Company has adhered to its stated 4/5 week delivery, from receipt of final design details. Furthermore all structural work is designed to BS 5950, standard on all Barrett contracts.

Technically, the steelwork is straightforward, with a hipped roof structure to reduce the apparent roof height. Each multi-bay block has a central roof section designed to accommodate expansion of surrounding bays, thus reducing cumulative eaves deflection.

The total value of the steelwork and cladding contract is £16 million. Elsewhere in the Rotherham enterprise zone, Barretts have completed over 450,000 sq ft of new factories and warehouses, representing over 70% of all new building work in the zone.



‘Going up’ with steel

Structural steelwork was the natural choice of material for the construction of the new Entrance and Sky Lifts, at Aston University, recently opened by The Rt. Hon. Lord Young of Graffham (Secretary of State for Employment).

The Architects, Hinton Brown Langden conceived the structure to afford access to both the Main Building and the South Wing of the University and the structural design by Roy Bolsover & Associates employed some 120 tonnes of structural steelwork, both conventional and of tubular construction, all of which was fabricated by the old established Structural Engineering firm of William Sharp, of Walsall.

The Sky Lifts, which are glass fronted, give a panoramic view of the surrounding district and run between the structural steel supports which are deliberately exposed to view, as is the “Space Frame” construction of the Entrance Lobby, whilst the connecting landings to each floor are fully glazed.

The main structure was erected in a remarkably short time of 4 weeks, which enabled the project to be speedily completed.



The site of Rotherham's Parkgate project





The Register of
Qualified Steelwork
Contractors Scheme
Buildings

Steelwork contractors for buildings



The Register of Qualified Steelwork Contractors Scheme for Buildings (RQSC – Buildings) is open to any Steelwork Contractor who has a fabrication facility within the UK or European Union.

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

- C** Heavy industrial platework for plant structures, bunkers, hoppers, silos etc
D High rise buildings (offices etc over 15 storeys)
E Large span portals (over 30m)
F Medium/small span portals (up to 30m) and low rise buildings (up to 4 storeys)
G Medium rise buildings (from 5 to 15 storeys)
H Large span trusswork (over 20m)
J Tubular steelwork where tubular construction forms a major part of the structure
K Towers and masts
L Architectural steelwork for staircases, balconies, canopies etc
M Frames for machinery, supports for plant and conveyors
N Large grandstands and stadia (over 5000 persons)
Q Specialist fabrication services (eg bending, cellular/castellated beams, plate girders)
R Refurbishment
S Lighter fabrications including fire escapes, ladders and catwalks
FPC Factory Production Control certification to BS EN 1090-1
 1 – Execution Class 1 2 – Execution Class 2
 3 – Execution Class 3 4 – Execution Class 4
BIM BIM Level 2 assessed
QM Quality management certification to ISO 9001
SCM Steel Construction Sustainability Charter
 ● = Gold ● = Silver, ● = Bronze, ● = Certificate

Notes

(1) Contracts which are primarily steelwork but which may include associated works. The steelwork contract value for which a company is pre-qualified under 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.

BCSA steelwork contractor member	Tel	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	QM	FPC	BIM	SCM	Guide Contract Value (1)
A C Bacon Engineering Ltd	01953 850611			●	●	●	●			●	●			●	●	✓	2			Up to £6,500,000
Adey Steel Ltd	01509 556677			●	●	●	●	●	●	●	●		●		●	✓	3		●	Up to £5,000,000
Adstone Construction Ltd	01905 794561			●	●	●	●	●								✓	2	✓	●	Up to £3,400,000
AJ Engineering & Construction Services Ltd	01309 671919			●	●		●		●	●	●			●	●	✓	4		●	Up to £3,400,000
Angle Ring Company Ltd	0121 557 7241												●			✓	4			Up to £1,200,000
Arminhall Engineering Ltd	01799 524510	●			●	●		●		●	●			●	●	✓	2		●	Up to £2,400,000
Arromax Structures Ltd	01623 747466			●	●	●	●	●	●	●	●				●		2			Up to £1,200,000
ASD Westok Ltd	0113 205 5270	●	●	●	●	●	●			●	●	●	●		●	✓	4		●	Up to £6,500,000
ASME Engineering Ltd	020 8966 7150	●		●	●	●		●	●	●	●		●	●	●	✓	4		●	Up to £6,500,000
Atlasco Constructional Engineers Ltd	01782 564711			●	●	●	●			●	●			●	●	✓	2			Up to £1,200,000
BD Structures Ltd	01942 817770			●	●	●	●				●	●		●	●	✓	3	✓	●	Up to £2,400,000
Barnshaw Section Benders Ltd	0121 557 8261												●			✓	4			Up to £1,200,000
BHC Ltd	01555 840006	●	●	●	●	●	●	●	●	●	●	●		●	●	✓	4	✓	●	Above £10,000,000
Billington Structures Ltd	01226 340666		●	●	●	●	●	●		●		●	●	●		✓	4	✓	●	Above £10,000,000
Bourne Group Ltd	01202 746666		●	●	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	●	Above £10,000,000
Briton Fabricators Ltd	0115 963 2901	●		●	●	●	●	●	●	●	●		●	●	●	✓	4		●	Up to £6,500,000
Cairnhill Structures Ltd	01236 449393	●			●	●	●	●	●					●	✓	4			●	Up to £6,500,000
Caunton Engineering Ltd	01773 531111	●	●	●	●	●	●	●		●	●	●		●	●	✓	4	✓	●	Above £10,000,000
Cementation Fabrications	0300 105 0135	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	3		●	Up to £10,000,000
CMF Ltd	020 8844 0940				●		●	●		●	●				●	✓	4			Up to £6,500,000
Coventry Construction Ltd	024 7646 4484	●	●	●	●	●	●	●	●	●	●		●	●	●	✓	4			Up to £2,400,000
D H Structures Ltd	01785 246269			●	●		●			●							2			Up to £600,000
Duggan Steel	00 353 29 70072		●	●	●	●	●	●		●						✓	4			Above £10,000,000
D Hughes Welding & Fabrication Ltd	01248 421104				●	●	●	●	●	●	●		●	●	●	✓	4			Up to £600,000
ECS Engineering Services Ltd	01773 860001	●		●	●	●	●	●	●	●	●			●	●	✓	4		●	Up to £3,400,000
Elland Steel Structures Ltd	01422 380262		●	●	●	●	●	●	●	●	●	●		●	●	✓	4	✓	●	Up to £10,000,000
Embrace Steel Group Ltd	01748 810598	●	●	●	●	●	●			●	●	●	●	●	●	✓	4			Up to £10,000,000
EvadX Ltd	01745 336413		●	●	●	●	●	●		●	●	●			●	✓	3		●	Up to £2,400,000
Four-Tees Engineers Ltd	01489 885899	●		●	●		●	●	●	●	●		●	●	●	✓	3		●	Up to £3,400,000
Fullpen Fabrications Ltd	0203 6335586	●		●	●	●	●			●	●			●			3			Up to £500,000
BCSA steelwork contractor member	Tel	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	QM	FPC	BIM	SCM	Guide Contract Value (1)

BCSA steelwork contractor member	Tel	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	QM	FPC	BIM	SCM	Guide Contract Value (1)
G & L Environmental Ltd	01634 252288									●	●			●	●	✓	3			Up to £500,000
G.R. Carr (Essex) Ltd	01286 535501	●		●	●			●			●			●	●	✓	4			Up to £2,400,000
Gorge Fabrications Ltd	0121 522 5770				●	●	●	●		●	●			●	●	✓	3			Up to £1,200,000
H Young Structures Ltd	01953 601881			●	●	●	●	●			●			●	●	✓	4	✓	●	Up to £5,000,000
Had Fab Ltd	01875 611711	●			●		●	●	●	●	●		●	●	●	✓	4			Up to £6,500,000
HBE Services Ltd	01525 854110				●	●				●				●	●	✓	3			Up to £1,200,000
Hescott Engineering Company Ltd	01324 556610			●	●	●	●	●		●					●	✓	2			Up to £3,400,000
Hillcrest Structural Steel Ltd	023 8064 1373			●	●	●	●	●		●	●			●	●	✓	3		●	Up to £3,400,000*
Intersteels Ltd	01322 337766	●			●	●	●	●	●				●	●	●	✓	3	✓		Up to £5,000,000
Jamestown Manufacturing Ltd	00 353 45 434 288		●	●	●	●	●	●	●	●		●	●			✓	4			Up to £10,000,000
Kiernan Structural Steel Ltd	00 353 43 334 1445		●	●	●	●	●	●		●	●	●	●	●	●	✓	4	✓	●	Above £10,000,000
Kilnbridge Structures Limited	02075 111888	●		●	●	●	●	●	●	●	●		●	●	●	✓	4		●	Up to £6,500,000*
Leach Structural Steelwork Ltd	01995 642000			●	●	●	●	●			●					✓	3		●	Up to £6,500,000
Legge Steel (Fabrications) Ltd	01592 205320			●	●					●	●			●	●		2			Up to £600,000
Littleton Steel Ltd	01934 311670			●	●	●	●	●		●	●			●	●	✓	3			Up to £1,200,000
Loaninghill Fabrication Company Ltd	01506 858466				●			●	●	●	●			●	●		3			Up to £600,000
M Hasson & Sons Ltd	028 2957 1281			●	●	●	●	●	●	●	●			●	●	✓	4		●	Up to £1,400,000
M.J. Patch Engineering Ltd	01275472279				●					●	●			●	●	✓	3			Up to £2,400,000
M&S Engineering Ltd	01461 40111				●		●		●	●	●		●		●	✓	3			Up to £2,400,000
Mackay Steelwork & Cladding Ltd	01862 843910			●	●		●			●	●			●	●	✓	4		●	Up to £2,400,000
Malci Constructions Ltd	0148 479 4029															✓	2			
Midland Structures Limited	01384 411201			●	●	●	●	●	●	●	●		●	●	●	✓	3			Up to £5,000,000
Murphy International Ltd	00 353 45 431384	●		●	●	●	●	●	●	●	●			●	●	✓	4		●	Up to £6,500,000
Nationwide Structures Ltd	01924365883			●	●	●	●				●			●		✓	4			Up to £10,000,000
Newbridge Engineering Ltd	01429 866722	●	●	●	●	●	●	●			●	●				✓	4		●	Up to £2,400,000
North Lincs Structures	01724 855512			●	●					●					●	✓	2			Up to £600,000
Painter Brothers Ltd	01432 374400				●				●	●	●			●	●		3			Up to £5,000,000*
Peter Marshall (Steel Stairs) Ltd	0113 307 6730				●	●				●	●				●	✓	3			Up to £2,400,000*
PMS Fabrications Ltd	01228 599090			●	●	●	●		●	●	●			●	●		3			Up to £3,400,000
REIDsteel	01202 483333			●	●	●	●	●	●	●	●	●	●		●	✓	4		●	Above £10,000,000
SAH Luton Ltd	01582 805741			●	●	●				●				●	●		2			Up to £600,000
Severfield plc	01845 577896	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	●	Above £10,000,000
Shaun Hodgson Engineering Ltd	01553 766499	●		●	●		●			●	●			●	●	✓	3			Up to £1,200,000
Shipley Structures Ltd	01400 251480		●	●	●	●	●		●	●	●			●	●	✓	3			Up to £2,400,000
Snashall Steel Fabrications Co Ltd	01300 345588			●	●	●	●	●			●			●	●	✓	3	✓	●	Up to £3,400,000
Southern Fabrications (Sussex) Ltd	01243 649000				●	●				●	●			●	●	✓	2			Up to £1,200,000
Stage One Creative Services Ltd	01423 358001				●		●	●	●	●	●		●			✓	2			Up to £6,500,000
Steel & Roofing Systems	00 353 56 444 1855	●		●	●	●	●	●	●	●	●	●		●	●	✓	4			Up to £10,000,000
TSI Structures Ltd	01603 720031			●	●	●	●	●			●			●			2	✓		Up to £3,400,000
W I G Engineering Ltd	01869 320515				●					●	●			●	●	✓	2		●	Up to £600,000
Walter Watson Ltd	028 4377 8711			●	●	●	●	●		●		●				✓	4		●	Above £10,000,000
Westbury Park Engineering Ltd	01373 825500	●		●	●	●	●	●	●	●	●				●	✓	4		●	Up to £1,200,000
William Haley Engineering Ltd	01278 760591			●	●	●	●				●		●			✓	4			Up to £6,500,000
William Hare Ltd	0161 609 0000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	●	Above £10,000,000

Non BCSA member	Tel	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	QM	FPC	BIM	SCM	Guide Contract Value (1)
Eden Fabrications	02825 821000			●	●	●	●	●		●	●		●		●	✓	3			Up to £1,200,000
Non BCSA member	Tel	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	QM	FPC	BIM	SCM	Guide Contract Value (1)



The Register of
Qualified Steelwork
Contractors Scheme
Bridgeworks

Steelwork contractors for bridgeworks

The Register of Qualified Steelwork Contractors Scheme for Bridgeworks (RQSC – Bridgeworks) is open to any Steelwork Contractor who has a fabrication facility within the UK or European Union.



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

FB	Footbridges	FRF	Factory-based bridge refurbishment
CF	Complex footbridges	AS	Ancillary structures in steel associated with bridges, footbridges or sign gantries (eg grillages, purpose-made temporary works)
SG	Sign gantries	QM	Quality management certification to ISO 9001
PG	Bridges made principally from plate girders	FPC	Factory Production Control certification to BS EN 1090-1 1 – Execution Class 1 2 – Execution Class 2 3 – Execution Class 3 4 – Execution Class 4
TW	Bridges made principally from trusswork	BIM	BIM Level 2 compliant
BA	Bridges with stiffened complex platework (eg in decks, box girders or arch boxes)	SCM	Steel Construction Sustainability Charter ● = Gold ● = Silver ● = Bronze ● = Certificate
CM	Cable-supported bridges (eg cable-stayed or suspension) and other major structures (eg 100 metre span)		
MB	Moving bridges		
SRF	Site-based bridge refurbishment		

Notes

(1) Contracts which are primarily steelwork but which may include associated works. The steelwork contract value for which a company is pre-qualified under 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.

BCSA steelwork contractor member	Tel	FB	CF	SG	PG	TW	BA	CM	MB	SRF	FRF	AS	QM	FPC	BIM	NHSS 19A	20	SCM	Guide Contract Value ⁽¹⁾
Adey Steel Ltd	01509 556677	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £3,400,000
AJ Engineering & Construction Services Ltd	01309 671919	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £3,400,000
ASD Westok Ltd	0113 205 5270	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £6,500,000
Beaver Bridges Ltd	01204 668773	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £6,500,000
BHC Ltd	01555 840006	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓		✓	●	Up to £3,400,000
Billington Structures Ltd	01226 340666	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	✓	✓	●	Above £10,000,000
Bourne Group Ltd	01202 746666	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓		✓	●	Up to £10,000,000
Briton Fabricators Ltd	0115 963 2901	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £10,000,000
Cairnhill Structures Ltd	01236 449393	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £6,500,000
Cementation Fabrications	0300 105 0135	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £10,000,000
D Hughes Welding & Fabrication Ltd	01248 421104	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £600,000
ECS Engineering Services Ltd	01773 860001	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £500,000
Four-Tees Engineers Ltd	01489 885899	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £3,400,000
Fullpen Fabrications	0203 6335586	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £600,000
Jamestown Manufacturing Ltd	00 353 45 434 288	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £10,000,000
Kiernan Structural Steel Ltd	00 353 43 334 1445	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓		✓	●	Up to £1,200,000
Kilnbridge Structures Limited	02075 111888	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £6,500,000
M&S Engineering Ltd	01461 40111	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £2,400,000
M Hasson & Sons Ltd	028 2957 1281	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £2,400,000
Millar Callaghan Engineering Services Ltd	01294 217711	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £2,400,000
Murphy International Ltd	00 353 45 431384	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £6,500,000
Nusteel Structures Ltd	01303 268112	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Up to £6,500,000
REIDsteel	01202 483333	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £3,400,000
Severfield plc	01845 577896	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	✓	✓	●	Above £10,000,000
William Hare Ltd	0161 609 0000	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓	✓	✓	●	Above £10,000,000
Non-BCSA member																			
Allerton Steel Ltd	01609 774471	●	●	●	●	●	●	●	●	●	●	●	✓	4	✓		✓	●	Up to £5,000,000
AMCO Giffen	01226 243413	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £1,200,000
Carver Engineering Services Ltd	01302 751900	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £5,000,000
Centregreat Engineering Ltd	02920 226088	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓		●	Up to £3,400,000
Cimolai SpA	01223 836299	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Above £10,000,000
CTS Bridges Ltd	01484 606416	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to 1,200,000
Donyal Engineering Ltd	01207 270909	●	●	●	●	●	●	●	●	●	●	●	✓	3		✓	✓	●	Up to £2,400,000
Harrisons Engineering (Lancashire) Ltd	01254 823993	●	●	●	●	●	●	●	●	●	●	●	✓	3		✓	✓	●	Up to £3,400,000
Hollandia Infra BV	+31 (0) 180 519956	●	●	●	●	●	●	●	●	●	●	●	✓	4				●	Above £10,000,000
HS Carlsteel Engineering Ltd	020 8312 1879	●	●	●	●	●	●	●	●	●	●	●	✓	3			✓	●	Up to £2,400,000
In-Spec Manufacturing Ltd	01642 210716	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Up to £2,400,000
J&D Pierce Contracts Ltd	01505 683724	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Above £10,000,000
Kelly's Welders & Blacksmiths Ltd	01383 512 517	●	●	●	●	●	●	●	●	●	●	●	✓	2			✓	●	Up to £350,000
Lanarkshire Welding	01698 264271	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Up to £5,000,000
Taziker Industrial Ltd	01204 468080	●	●	●	●	●	●	●	●	●	●	●	✓	3		✓	✓	●	Above £10,000,000
Total Steelwork & Fabrication Ltd	01925 234320	●	●	●	●	●	●	●	●	●	●	●	✓	4			✓	●	Up to £1,200,000
Victor Buyck Steel Construction	00 32 9 376 2211	●	●	●	●	●	●	●	●	●	●	●	✓	4		✓	✓	●	Above £10,000,000



Stakeholder Members

Stakeholder Members are clients, professional offices, educational establishments etc which support the development of national specifications, quality, fabrication and erection techniques, overall industry efficiency and good practice.

Company name	Tel	Company name	Tel	Company name	Tel
Griffiths & Armour	0151 236 5656	Paul Hulme Engineering Ltd	07801 216858	Structural & Weld Testing Services Ltd	01795 420264
MMC Engineer Ltd	01423 855939	Sandberg LLP	020 7565 7000	SUM ADR Ltd	07960 775772
National Highways	0300 123 5000	Solent Commercial Management Limited	07852 309104	Thames Welding Ltd	07912 691704



Industry Members

Industry Members are those principal companies involved in the direct supply to all or some Steelwork Contractor Members of components, materials or products. Industry member companies must have a registered office within the United Kingdom or Republic of Ireland.

QM FPC	Quality management certification to ISO 9001 Factory Production Control certification to BS EN 1090-1 1 Execution class 1 2 Execution class 2 3 Execution class 3 4 Execution class 4	CA M D/I N/A	Conformity Assessment UKCA and/or CE Marking compliant, where relevant: manufacturer (products UKCA and/or CE Marked) distributor/importer (systems comply with the CPR) CPR not applicable	SCM Gold Bronze	Steel Construction Sustainability Charter ● = Gold ● = Silver ● = Bronze ● = Certificate	SFL Steel for Life Sponsor
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NHSS National Highway Sector Scheme

Steel for Life sponsors									
Level	Company name	Sector	Tel	QM	CA	FPC	NHSS	SCM	Email
Headline	Barrett Steel Limited	Steel producers and stockholders	01274 474314	✓	M	4	3B		sales@barrettsteel.com
Gold	Cleveland Steel & Tubes Ltd	Steel producers and stockholders	01845 577789	✓	M	3	3B		sales@cleveland-steel.com
Gold	National Tube Stockholders Ltd	Steel producers and stockholders	01845 577440	✓	D/I	4	3B		sales@nationaltube.co.uk
Gold	voestalpine Metsec plc	Manufacturing and structural services	0121 601 6000	✓	M	4		●	metsec.plc@voestalpine.com
Gold	Wedge Group Galvanizing Ltd	Protective Coatings	01902 601944	✓	N/A				info@wedge-galv.co.uk
Silver	Barnshaw Section Benders	RQSC Buildings	0121 557 8261	✓	N/A	4		●	sectionbending@barnshaws.com
Silver	Behringer Ltd (Vernet Behringer)	Manufacturing and structural services	01296 668259	✓	N/A				info@behringerltd.co.uk
Silver	FICEP UK Ltd	Manufacturing and structural services	01924 223530	✓	N/A				info@ficep.co.uk
Silver	Hempel	Protective Coatings	01633 874024	✓	N/A				sales.uk@hempel.com
Silver	Joseph Ash Galvanizing	Protective Coatings	01246 854650	✓	N/A				sales@josephash.co.uk
Silver	Sherwin Williams Ltd	Protective Coatings	01204 521771	✓	N/A				enquiries@sherwin.com
Silver	Voortman UK Ltd	Manufacturing and structural services	+31 (0)548 536 373	✓	N/A				info@voortman.net

Manufacturing and Structural Services

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Albion Sections Ltd	0121 553 1877	✓	M	4			
Behringer Ltd (Vernet Behringer)	01296 668259	✓	N/A				
Cast Connex UK Ltd	01416 806 3521	✓	M				
Cellbeam Ltd	01937 840600	✓	M	4	20		
Construction Metal Forming Ltd	01495 761080	✓	M	3			
FICEP UK Ltd	01924 223530	✓	N/A				
Farrat Isolevel	0161 924 1600	✓	N/A				
Hadley Industries Plc	0121 555 1342	✓	M	4		●	
Hi-Span Ltd	01953 603081	✓	M	4		●	
Kaltenbach Ltd	01234 213201	✓	N/A				
Kingspan Limited	01944 712000	✓	M	4		●	
Lincoln Electric (UK) Ltd	0114 287 2401	✓	N/A				
Peddinghaus Corporation UK Ltd	01952 200377	✓	N/A				
Tata Steel - ComFlor	01244 892199	✓	M	4			
Voestalpine Metsec	0121 601 6000	✓	M			●	✓
Voortman UK Ltd	+31 (0)548 536 373	✓	N/A				✓

Software

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Autodesk Ltd	01252456600	✓	N/A				
Fabsec Ltd	01937 840641	✓	N/A				
IDEA StatiCa UK Ltd	02035 799397	✓	N/A				✓
StruMIS Ltd	01332 545800	✓	N/A				
Trimble UK Limited	0113 887 9790	✓	N/A				

Site services and installation

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Composite Profiles UK Ltd	01202 659237	✓	D/I				
Deconstruct UK Ltd	02035 799397	✓	N/A				
Easi-Edge Ltd	01777 870901	✓	N/A				
Kellbray Holdings Ltd	0207 643 1000	✓	N/A				
MSW UK Ltd	0115 946 2316	✓	D/I				
Prodeck-Fixing Ltd	01278 780586	✓	D/I				
Structural Metal Decks Ltd	01202 718898	✓	M	4			
Stud-Deck Services Ltd	01335 390069	✓	D/I				

Structural fasteners

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Advanced Bolting Solutions Limited	0116 251 2251	✓	M				
Andrews Fasteners Limited	0113 246 9992	✓	M		3		
BAPP Group Ltd	01226 383824	✓	M		3		
Cooper & Turner Ltd	0114 256 0057	✓	M		3		
Howmet Fastening Systems Ltd	01952 290011	✓	M				
Lindapter International	01274 521444	✓	M				
Tension Control Bolts Ltd	01978 661122	✓	M		3		

Steel producers and stockholders

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Arcelor Mittal Distribution - Scunthorpe	01724 810810	✓	D/I	4	3B		✓
ASD Metals UK	0113 254 0711	✓	D/I	4	3B	●	
Barrett Steel Limited	01274 474314	✓	M	4	3B		✓
British Steel Ltd	01724 404040	✓	M		3B		
Cleveland Steel & Tube Limited	01845 577789	✓	M	3	3B		✓
Daver Steels Ltd	0114 261 1999	✓	M	3	3B		
Dent Steel Services (Yorkshire) Ltd	01274 607070	✓	M	4	3B		
Murray Plate Group Ltd	0161 866 0266	✓	D/I	4	3B		
National Tube Stockholders Ltd	01845 577440	✓	D/I	4	3B		✓
Rainham Steel Co Ltd	01708 522311	✓	D/I	4	3B		
Tata Steel - Tubes	01536 402121	✓	M		3B		
The Alternative Steel Co Ltd	01942 826677	✓	D/I				

Protective coatings

Company name	Tel	QM	CA	FPC	NHSS	SCM	SFL
Forward Protective Coatings Ltd	01623 748323	✓	N/A				
Hempel	01633 874024	✓	N/A				✓
Highland Metals Ltd	01343 548855	✓	N/A				
International Paint Ltd	0191 469 6111	✓	N/A				
Jack Tighe Ltd	01302 880360	✓	N/A		19A	●	
Joseph Ash Galvanizing	01246 854650	✓	N/A				✓
PPG Architectural Coatings UK & Ireland	01924 354233	✓	N/A				
Sherwin-Williams UK Ltd	01204 521771	✓	N/A				✓
Vale Protective Coatings Ltd	01949 869784	✓	N/A				
Wedge Group Galvanizing Ltd	01902 601944	✓	N/A				✓



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