CONNECT

Latest news, technical support
& events from SCI

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JULY 2026

NEWS

A ROUND UP OF THE LATEST INDUSTRY NEWS

SCI NEWS

TRENDS IN SEEKING TECHNICAL ADVICE

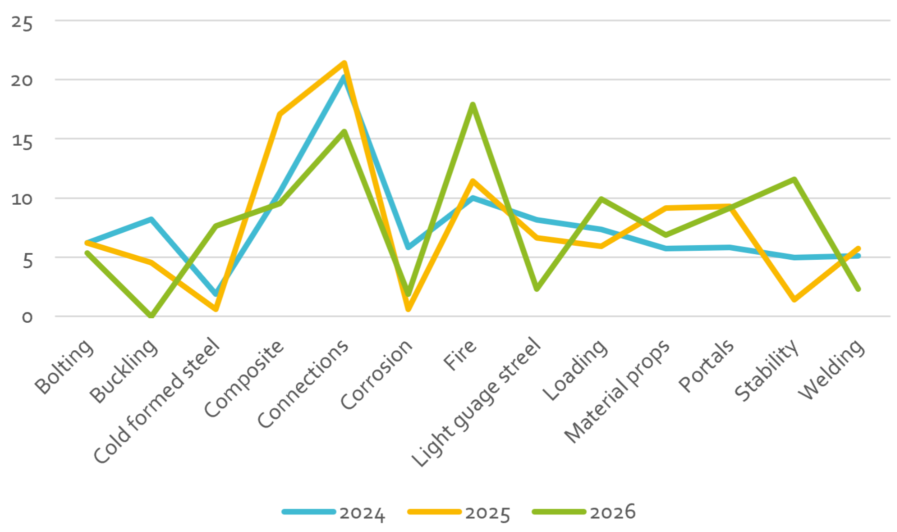
In recent issues of Connect, we have shown a pie-chart that categorises the questions we get asked through SCI's Advisory Desk. With over 1000 questions asked annually, this gives a useful insight in to what is 'troubling' people. We thought it would also be interesting to see how things evolve. Before looking at the stats, it is worth remembering that prior to SCI being formed over 40 years ago, a survey to confirm the need for an institute and provide focus for its activities stated fire, corrosion, and complexity of design as being the top three 'blockers' to steel being used in construction.

The graph below shows some facts and trends, some undeniable, some suspected. Numbers are the percentage of total questions associated with a given category in a given time period, considering January 2024 to June 2026:

- From a full list of 31 categories, 18 never attract more than 5% interest and so do not feature in this summary.
- 'Connections' is always the biggest area where advice is needed, with consistent numbers of around 20%. That fact is reinforced if one adds the numbers for 'Bolting', as would seem logical.
- 'Fire' is, unsurprisingly, creating ever more questions and now getting near to the top spot.
- The late 2025/26 jump in 'Portals' is probably explained by recent debate about capable members and boundary walls in fire
- There is consistently a reasonable level of interest in 'Composite', 'Loading' and 'Material Properties'.
- Perhaps the recent jumps in 'Stability' and 'Loading' reflect Advisory Desk users starting to think about Generation 2 Eurocodes.
- Not on the list, which you may or may not find surprising, given the amount of time devoted to discussing it, is 'Re-use'. It has never exceeded 0.75%!

Unlimited access to our Advisory Desk is one of the benefits of SCI Membership. Contact us for more information.

Dr Graham Couchman, CEO, SCI
Connect with Graham on LinkedIn



SCI Advisory Desk Enquiry Topics January 2024 - June 2026

STRUCTURAL FIRE ENGINEERING AT SCI

The fire engineering landscape has changed dramatically. Post-Grenfell, the design and engineering of building structures have come under unprecedented scrutiny from local authorities, insurers, and independent reviewers. This has fuelled a widespread shift away from generic, prescriptive code-compliance methods toward more rigorous, physics-based verification of how steel elements perform under fire.

As a leading independent authority in steel construction, SCI is at the forefront of this technical evolution, specialising in bridging the gap between complex thermal behaviour and practical, code-compliant design.

For commercial clients across the sector, SCI regularly undertakes advanced thermal finite element analysis and elevated-temperature structural assessments. Because of SCI's long-standing reputation for technical rigour, our engineering reports are widely recognized by third-party reviewers and regulatory authorities, significantly reducing risk and supporting the approval process for our clients.

Commercial Industry Work

Standard construction details, as well as bespoke solutions, can often present fire engineering challenges where no directly applicable testing evidence is available. Through advanced finite element analysis, SCI supports manufacturers and contractors in assessing, optimising, and validating structural performance under fire conditions.

Light Steel Walls Exposed to Fire on Two Sides

- The Engineering Need: The fire resistance of light steel walls at elevated temperatures is typically determined through tests where the wall is exposed to fire on one side only. This approach is generally considered appropriate, as such walls are commonly located at the boundary of a fire compartment. It was also the only method of testing required in order to show regulatory compliance according to Approved Document B. However, a recent CROSS report identified a significant structural risk: internal load-bearing walls may be exposed to fire on both sides simultaneously. Currently, no standard testing data or prescriptive design guidance exists for this two-sided fire scenario.
- How SCI Responds: SCI supports light gauge steel manufacturers in addressing this issue. We develop advanced finite element models to predict the temperature profiles within steel studs protected by different boarding configurations. The thermal properties of fire protection materials are calibrated against physical one-sided fire tests to ensure computational accuracy. The validated model is then used to simulate two-sided fire exposure, generating reliable temperature-versus-time data. This output is directly integrated with the structural resistance methodologies in SCI Publication P442, providing clients with a validated engineering approach for assessing two-sided fire exposure conditions.

Thermal Performance of Slab-to-Wall Junctions

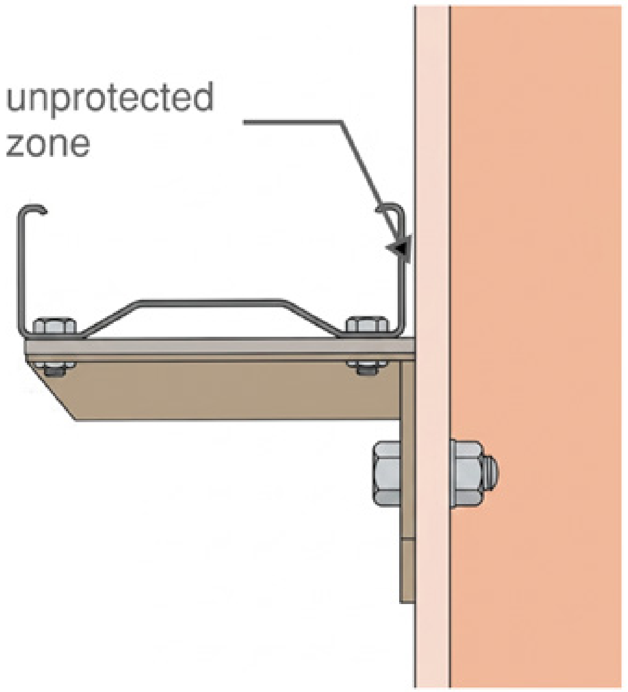
- The Engineering Need: In light steel construction, the junctions between floor slabs and load-bearing walls can give rise to complex thermal behaviour under fire conditions. To satisfy building control requirements, clients must demonstrate that the steel members supporting concrete floor slabs can withstand standard fire exposures of 60 to 120 minutes without causing localised structural failure.
- How SCI Responds: SCI develops thermal models of these junctions using high-fidelity finite element analysis software to simulate heat transfer through complex slab-to-wall details under the standard ISO fire curve. Various protection configurations are assessed, including the incorporation of gap seal blocks and additional plasterboard layers. By extracting detailed temperature profiles across the steel supports throughout the fire exposure period, SCI performs structural assessments at elevated temperatures in accordance with Eurocode 3. This enables the determination of precise utilisation limits at normal temperatures required to ensure structural stability under fire conditions.

Research Initiatives: Development & Sponsorship Opportunities

Beyond its day-to-day commercial project work, SCI undertakes applied research to address industry needs. SCI is actively seeking industry co-sponsors to collaborate on these key initiatives and help shape best practice.

Performance-Based Fire Design for Open-Sided Car Parks

- The Risk & Need: Current prescriptive regulations (Approved Document B) assume that open-sided car parks require only 15 minutes of fire resistance, allowing most structural steel frames to remain unprotected. However, modern vehicles are larger, contain significantly greater quantities of combustible plastics, and increasingly incorporate alternative power sources such as lithium-ion batteries. These factors result in higher fire loads and more severe heat release rates than the outdated vehicle data on which current guidance is based. As a result, future regulatory changes are likely to require increased fire resistance periods and the introduction of fire protection, reducing the commercial competitiveness of steel frames compared to reinforced concrete alternatives.



Typical column-side rail detail

- Work Done & Sponsorship Potential: Funded by the British Constructional Steelwork Association (BCSA), SCI completed an initial study on the advantages of performance-based fire design in addressing these modern risks. Building on the fire models available in SCI Publication P423 and the wider literature, we simulated realistic vehicle fire scenarios for the assessment of both internal and perimeter steel members. By calculating the resulting steel temperatures and assessing member resistance in accordance with BS EN 1993-1-2, the study assessed where unprotected steel construction may remain viable and where additional fire protection measures may be required. SCI intends to extend this work into a comprehensive design guide, subject to the availability of further funding.

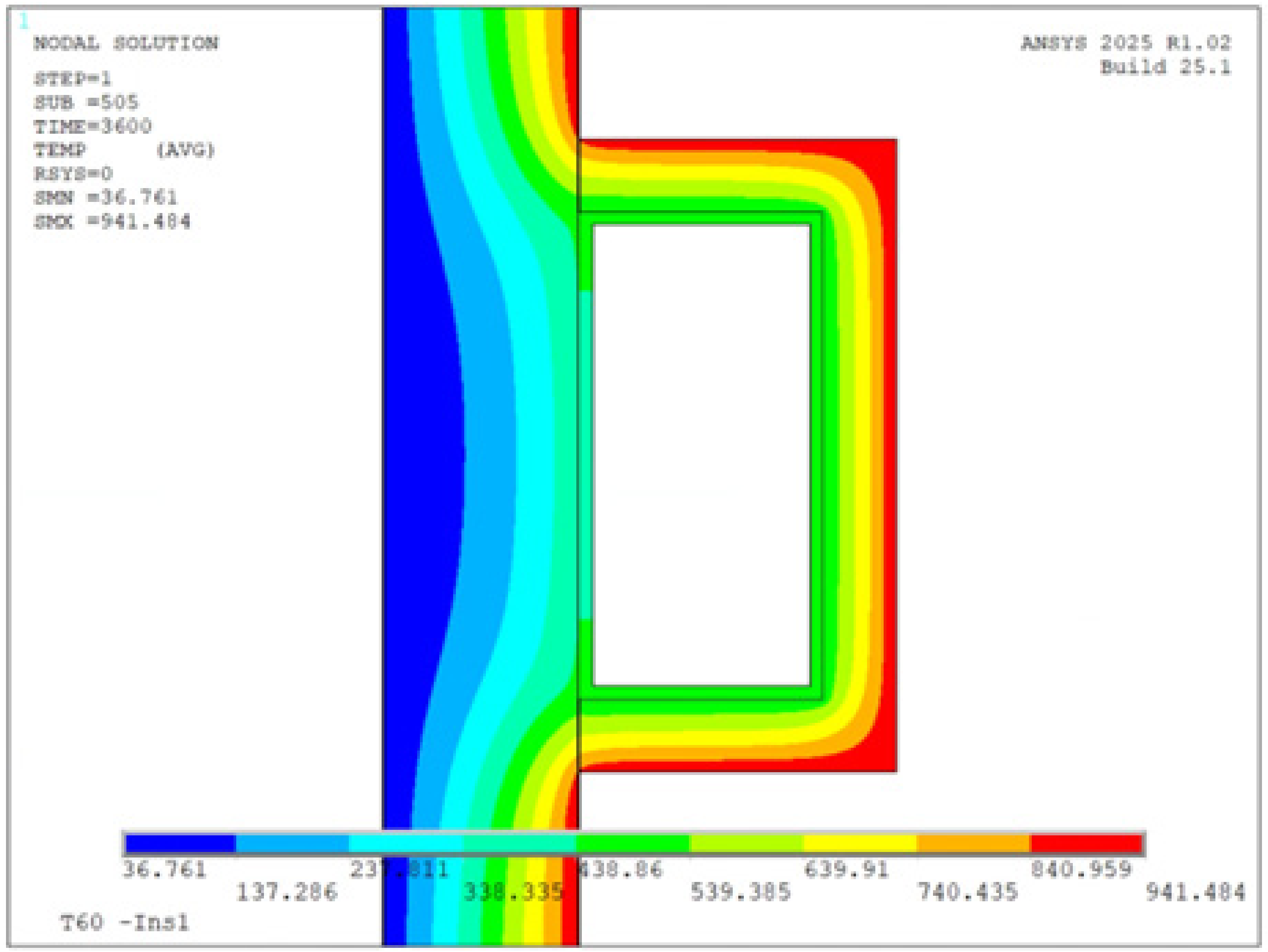
Boundary Conditions in Portal Frames: Ongoing Research Needs

Boundary Columns with Localised Unprotected Zones

- The Problem: Side rails supporting the cladding are often positioned immediately adjacent to boundary columns. This restricted space can prevent reactive intumescent coatings from expanding fully during a fire, leaving localised areas of the steel column effectively unprotected. Currently, no design guidance quantifies how these detailing issues may affect the global stability of the structure under fire conditions.
- The Research Needs & Next Steps: SCI has completed an initial 2D numerical study which indicated that localised unprotected regions may lead to local temperature increases and a corresponding reduction in cross-sectional resistance. Further work is required to extend these initial findings and either justify structural performance despite unprotected regions or develop practical detailing solutions. Proposed next phases include: (1) 3D thermal modelling to evaluate vertical heat transfer along the column length, (2) structural stability assessments under representative loading combinations, and (3) the development and validation of practical detailing approaches to mitigate the dentified risks.

Thermal Shielding of Capable Members by Cladding Systems

- The Problem: Capable members are structural elements used to support fire-resistant cladding systems intended to prevent fire spread to adjacent buildings. Typically, the cladding is attached directly to the outer face of the capable member, leaving three faces protected by intumescent coatings but the fourth face shielded only by the cladding itself. There is limited understanding regarding heat transfer through the cladding system into the steel member and its effect on its fire resistance.
- Research Needs & Next Steps: SCI has completed preliminary thermal analyses which indicated that the cladding assembly may provide significant thermal shielding. Further work is required to develop this into practical industry guidance. Proposed next phases include: (1) a comprehensive parametric study assessing a range of insulation materials, including glass wool within built-up systems, and (2) the development of design guidance and practical recommendations for use by engineers.



Temperature profile of a capable member

Further development of these studies is subject to the availability of industry sponsorship.

For more information on Structural Fire Engineering at SCI, please contact: hello@steel-sci.com.

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DR RICHARD MCCONNEL

Dr Richard 'Dick' McConnel sadly died on 16th June 2026. He worked closely with SCI on various aspects of composite construction, steel bridges and light weight structures, and was a Fellow in Engineering at St John's College, as well as a University Lecturer in the Department of Engineering, Cambridge University.

Dick was born in New Zealand in 1948 and won a Rhodes Scholarship to study at Oxford University where he gained his DPhil before moving to Cambridge University in 1980.

He was a keen sportsman and won a Blue in Hockey as well as setting up the University Rugby League team.

Dick carried out many full-scale structural tests on behalf of SCI at the Cambridge University Trumpington Street laboratory and supervised Prof Stephen Hicks, now Professor at Warwick University, through his PhD in the field of shear connection in composite beams. He was much liked by his University colleagues and students and was a great supporter of SCI's work over many years. He will be missed by all that knew him.

365 DAYS OF STEEL (BY BRUNO DURSIN)

The 'Stade de Luxembourg' is a football and rugby stadium that replaced the dilapidated Josy-Barthel Stadium. Construction was originally scheduled to take place between August 2017 and October 2019, but numerous delays and the Covid-19 health crisis pushed back the completion of the project to July 2021. It was officially inaugurated on 16 July 2021. The German architectural firm von Gerkan, Marg and Partners (gmp), in collaboration with the Luxembourg architects BENG Associés Architectes, designed the new stadium.

The stadium features a square layout with a single tier and diagonally-truncated corner areas, with the grandstand reaching all the way down to the edge of the pitch. A building block towards the south accommodates the functional facilities for VIPs, the press, players, and officials. The load-bearing structure of the grandstand roof consists of a grid of steel trusses that are tapered to reflect the internal forces; the grid of girders rises from all sides of the arena and, at its highest point, carries the pitch lighting system.

With only 9,900 seats, the new stadium is rather small in relation to global standards. The design aimed to create the atmosphere of a football arena while at the same time achieving a significant presence in the local environment. To achieve these aims the designer developed a uniform facade structure, as well as a simple geometric load-bearing structure. The diamond pattern folded metal plate structure of the facade has a unifying effect on the overall volume of the building. In addition, at the second level high above the building a line of lighting fixtures marks the dimensions of the pitch when viewed from the outside.

The 365 Days of Steel publication is exclusively available to SCI customers in the UK. You can order your copy by emailing sales@steel-sci.com


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P442 REVISED EDITION - DESIGN OF LOADBEARING LIGHT STEEL WALLS EXPOSED TO FIRE ON TWO SIDES

A revised edition of P442 is now available. The original version of the publication was released in 2024 to address the pressing need for a structural design method for load-bearing light steel walls exposed to fire on two sides. The publication and design methods have been a great success and have been widely adopted and accepted by industry.

However, since the release of the original publication, SCI has conducted a further ad-hoc two-sided fire test to extend the supporting information for the P442 design method. The latest ad-hoc test was on a load-bearing light steel framed wall with three layers of 15 mm British Gypsum Fireline plasterboard attached to each side of 100 x 50 x 1.25 mm lipped C section studs. For this wall construction the test failure duration was 123 minutes.

The new test data were used to further validate the P442 design method and confirm its suitability for use in the design of load-bearing light steel walls exposed to fire on two sides. There were no changes required to the design method as a result of the additional test evidence.

The revised publication gives further details of this additional test and the original ad-hoc two-sided fire test in a new appendix.

The changes to the revised edition of P442 compared to the original publication are:

- The inclusion of Appendix C, which gives details of the background ad-hoc fire tests which were used to develop and validate the design method.
- New artwork for the front cover image to differentiate it from the original version.

Load-bearing light steel frame walls are used in the construction of various types of multi-storey buildings. The walls are typically fire protected using multiple layers of gypsum-based boards depending on the required fire resistance period. Their fire resistance is demonstrated by fire testing of loaded walls exposed to fire from each side separately in accordance with BS EN 1365-1.

Compartment walls at the boundary of a fire compartment are only exposed to fire from one side at a time because design is based on the principle that a fire is contained within the fire compartment and does not spread to other compartments within the defined period of fire resistance. However, walls within a fire compartment could be exposed to fire on two sides simultaneously unless there are measures in place to prevent the spread of fire within a fire compartment. Hence, the need for the design methods presented in P442.

SCI publication P442 is a supplement to SCI publication P424 which provides comprehensive design guidance on the more general topic of fire resistance of light steel framing.

The SCI would like to thank the members of its Light Steel Forum who have supported the development of this publication, the background testing and provided technical expertise, which is gratefully acknowledged.

STEEL BRIDGE GROUP (SPG) 86TH MEETING UPDATE

On 14 May, SCI's Special Interest Group, the Steel Bridge Group (SBG) held its 86th meeting at the Arup's London Offices.

Conor Lavery (Arup) presented the Gull Wing Bridge in Lowestoft, detailing the structural design and construction of its counterbalanced rolling bascule mechanism. David Place (Mott MacDonald) shared a study on the HS2 Curzon 2 Viaduct. The presentation focused on designing for Operations and Maintenance (O&M), specifically looking at providing safe access for the internal inspection of the weathering steel box sections. Arnie Glausiusz (Tension Control Bolts) provided a presentation of TCB's range of products, including a demonstration of both the standard preloaded bolts, and blind bolts.

Ongoing work

The group discussed their ongoing work to produce guidance for use of BIM and an update to SCI P316 Precast Concrete Decks for Composite Highway Bridges. The group also discussed the development of new guidance on the removal of temporary lifting lugs.

Future developments

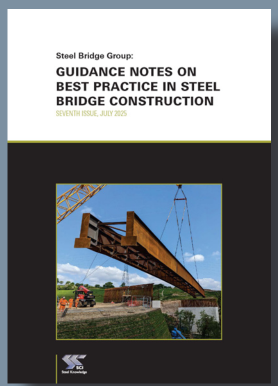
The group is now turning its attention to the introduction of the "Second Generation" of Eurocodes. The principal design standards relative to steel and composite bridge design have now all been published. Chris Hendy provided an update on the development of the UK National Annexes to BS EN 1993-1-5, BS EN 1993-1-9 and BS EN 1993-1-10. The group is reviewing existing SBG publications to determine the impact of the code changes and will begin work to update them shortly. The group is also looking at developing further guidance on the topic of strengthening, retrofitting and repairing steel bridges.

Click here for more information on SCI's Special Interest Groups.

PUBLICATIONS

849 SCI publications have been purchased/ downloaded from the SCI Shop so far this year.

The current bestselling publication is:
P185: Steel Bridge Group: Guidance Notes on Best Practice in Steel Bridge Construction (7th Edition)



SCI SHOP

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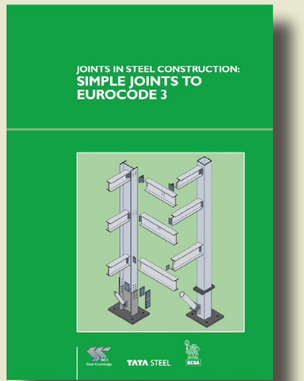
4,529 resources have been viewed/ downloaded by SCI members so far this year.

The most popular resource currently is:
P358: Joints in steel construction: Simple joints to Eurocode 3



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TECHNICAL UPDATES

View the latest technical information on steel in buildings and construction, through our own technical information website.

STEELBIZ

GENERATION 2 SNOW LOADS

BS EN 1991-1-3:2025 was published in the early part of 2025 and will lead to significant changes in practice in how "drifted" snow is considered. SCI's David Brown considers some of the more important changes.

Exceptional Snow

At the SCI offices in Berkshire, any snow at all is greeted with surprise. Not quite exceptional, but uncommon and usually gone before it can be enjoyed. "Exceptional snow" is a term in both the current version of BS EN 1991-1-3 and the Gen2 version. The current UK National Annex helpfully states that exceptional snow load on the ground is not considered to occur in the UK, meaning that certain following clauses are not applied in the UK. The Gen2 version also refers to exceptional conditions, but it is again expected that the UK NA will determine that these do not occur in the UK. The reason is the UK's maritime climate. Snow accumulations in the UK generally result from one single snow event, or a small number from one weather system. In the UK there is not usually an accumulation from several successive snowfalls which build up without melting, which would be an "exceptional snow load on the ground".

Accidental design situations

The Gen2 version of BS EN 1991-1-3 specifies in clause 4.1(2) that accidental design situations should be considered where exceptional conditions apply. The corollary is that in the absence of exceptional conditions, there are no accidental design situations. All conditions in the UK will be normal (i.e. a persistent design case, subject to the usual partial factors). This is likely to be a surprise to most designers in the UK, who for many years have treated drifted snow (in valleys, behind parapets etc) as an accidental situation. The background document to the new standard explains that snow loads occur in either "normal" or "exceptional" conditions and confirms that for normal conditions, the fundamental design situation should be used.

Get my drift?

Another change which will take some time to get used to is a change in terminology. "Drifted" is no longer used and will be known as "unbalanced". The second condition is obviously "balanced" rather than the "undrifted" we might commonly use today. This is to reflect the fact that drifting is only one effect that

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leads to an unbalanced situation. An unbalanced situation can also result from erosion due to wind, or, with no wind at all, from melting and sliding. The general term "unbalanced" is used to cover all of these effects.

In the UK, we have some experience of "unbalanced" load cases, since the current code requires partial removal of snow from one roof slope of a duopitch frame. The UK NA revises this to require the removal of all snow from the second slope. Many in the UK seem to ignore this load case, but it is in the current code. In the future, the unbalanced load cases will become more important, as described later.

Changes to UK practice

Currently, most designers consider a uniform snow load and then, as an entirely separate condition, an accidental load case with snow drifted (sorry, an "unbalanced" case) in valleys and behind parapets. In that accidental load case the remainder of the roof has no snow at all. Typical current cases are indicated in Figure 1.

The Gen2 version of the code includes what was previously known as drifted snow in addition to the uniform snow load on the roof. This is shown in Figure 2. In the balanced load arrangement on the double span structure, the snow is not necessarily "uniform" over the building – but potentially a higher value between the apex of the two spans. The increased snow load shape coefficient between the two apexes is to be based on a fixed slope of 30°, and a constant value of 1.0 replacing the exposure coefficient C_e. However, the UK National Annex is likely to adopt C_e = 1.0 and the snow load shape coefficient does not vary until the roof is more than 30°. For most steelwork designs therefore, case (i) of Figure 2 will be uniform.

The immediate implication of having drifted snow in addition to the uniform snow is that the load will be increasing, but comparisons are not easy. The maximum intensity of the redistributed snow in the Gen2 code in combination with the uniform snow load, can be less than the current drifted snow currently considered in isolation. This conclusion includes the effect of the different partial factors on normal/accidental loads of 1.5 and 1.0. The length of the snow drift also changes. Design loads will change, but it is not straightforward to identify a trend.

Example of a valley in the current code

Assuming that in Figure 2, the characteristic value of snow load on the ground, s_k = 0.4 kN/m^2, each span is 25 m and the roof slope is 6°, then according to Annex B of the current code:

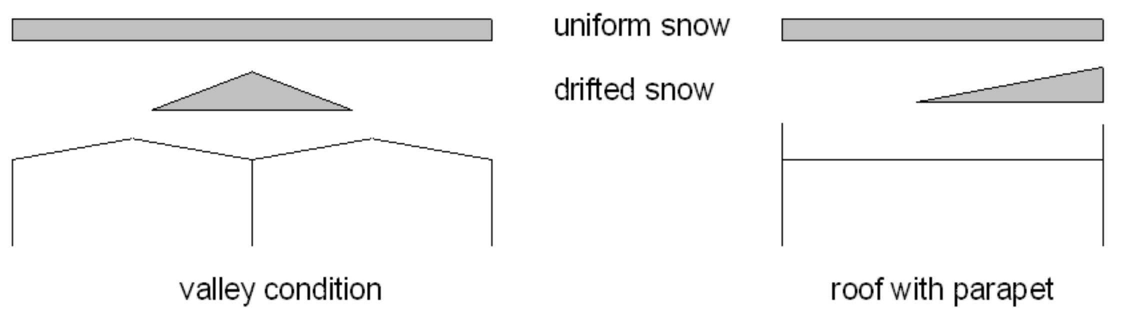


Figure 1 Current snow load arrangements

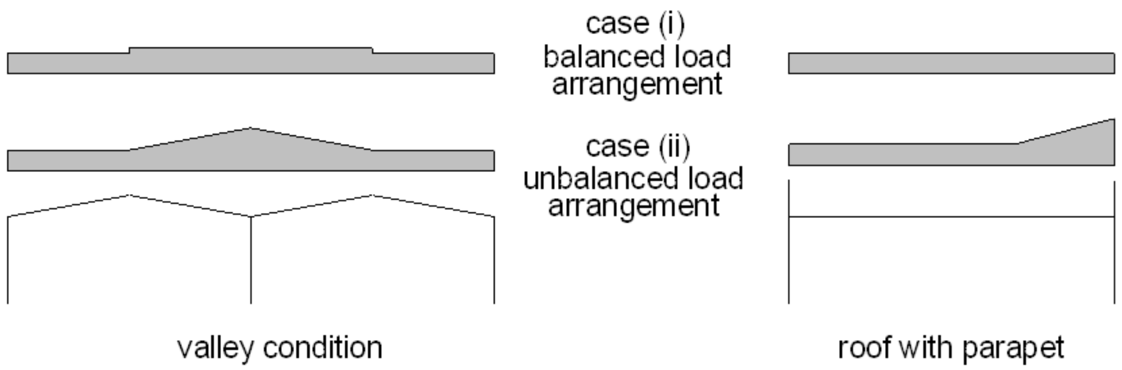


Figure 2 Generation 2 snow load srrangements

μ_1 = 3.0 and the drift length is 12.5 m.

In current practice therefore, the ultimate load from the drift alone (assuming this to be an accidental limit state and using a partial factor of 1.0) is:

2 × 0.5 × 12.5 × 0.4 × 3.0 × 1.0 = 15.0 kN per metre of building.

In current practice, a uniform case is also considered. Both Table 5.2 of the current code and the UK NA have μ_2 = 0.8

The ultimate load from the uniform case (over the valley alone) as a persistent combination using a partial factor of 1.5 is:

0.8 × 0.4 × 2 × 12.5 × 1.5 = 12.0 kN per metre of building.

In this case in the current code the total design load from the drifted snow exceeds the uniform snow case when considering the valley alone.

Example valley in the Gen2 code

In the Gen2 code, the uniform case is identical to the current code, assuming the exposure coefficient C_e = 1.0. The snow load shape coefficients are no longer a Nationally Determined Parameter (NDP).

The snow load shape coefficient for the example valley is μ_3 = 1.04.

The snow load shape coefficients for the valley are shown in Figure 3.

The ultimate load in this redistributed case, taken as a persistent combination using a partial factor of 1.5 is therefore:

1.5 × [0.8 × 0.4 × 25 + (1.04 - 0.8) × 0.4 × 12.5] = 13.8 kN per metre of building.

In this example, considering the total load in the valley alone, the Gen2 code still has the redistributed snow as the more onerous case, but not as heavily loaded. The Gen2 code results in an 8% reduction in the design loading, despite the change to a persistent case and partial factor of 1.5.

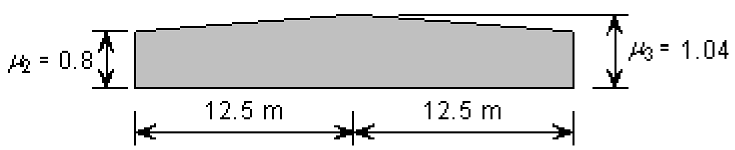


Figure 3 Snow load shape coefficients for the example valley

Example of parapet in the current code

Assuming that in Figure 2, the characteristic value of snow load on the ground, s_k = 0.4 kN/m², the building width is 12 m and the parapet is 0.75 m, then according to the current code:

μ_1 = 3.75 and the drift length is 3.75 m.

In current practice therefore, the ultimate load from the drift alone (assuming this to be an accidental limit state and using a partial factor of 1.0) is:

0.5 × 3.75 × 0.4 × 3.75 × 1.0 = 2.81 kN per metre of building.

In current practice, a uniform case is also considered. Table 5.2 of the current code specifies μ_1 = 0.8. The current UK NA modifies this in Figure NA.2 such that

μ_1 = 1.0.

The ultimate load from the uniform case as a persistent combination using a partial factor of 1.5 is:

1.0 × 0.4 × 12 × 1.5 = 7.2 kN per metre of building.

Example parapet in the Gen2 code

In the Gen2 code, μ_1 = 0.8 for a flat roof.

The snow load shape coefficient for the example arrangement is μ_7 = 3.0 and the drift length is 5.0 m. The snow load shape coefficients and drift length are shown in Figure 4.

UK NATIONAL ANNEX TO
BS EN 1993-1-3:2024
ISSUED FOR PUBLIC COMMENT

The comment period to the draft National Annex (NA) to BS EN 1993-1-13: Beams with large web openings, is now open for public comment.

It has a closing date of 18th August.

MORE DETAILS

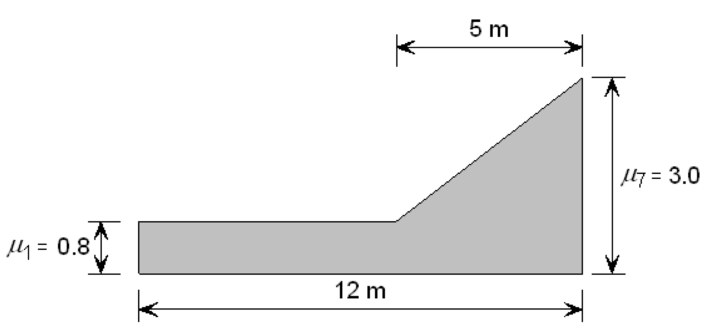


Figure 4 Snow loads shape coefficients for the example parapet

The ultimate load in this redistributed case, taken as a persistent combination using a partial factor of 1.5, is therefore:

1.5 × [0.8 × 0.4 × 12 + 0.5 × (3.0 - 0.8) × 0.4 × 5] = 9.06 kN per metre of building.

In this example, Gen2 is 25% more onerous than the current code.

Unbalanced cases on duo span roofs

The cases to be considered are shown in Figure 5, for a roof with the same slopes each side of the apex. Although Figure 5 looks as though snow has simply been completely removed from one roof slope in case (ii), this is not the complete picture. In the unbalanced cases, there is additional wind-driven snow on the remaining snow (the original "balanced" snow). Whilst snow is being entirely lost from one slope, some snow is blown onto the other, increasing the load.

At typical steel frame roof slopes of 6°, the additional wind driven part of the snow is very small; at 20°, the wind driven part of snow accounts for an additional 12% and at 30°, 20% additional load.

Snow around PV

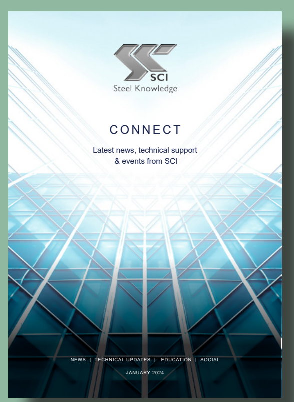
One brand new feature is a snow load arrangement for flat roofs with tilted panels – typically photovoltaic (PV) panels. There are many issues with PV on flat roofs, noting that a large part of the industry is concerned not with new build (where the loads should be included in the design) but on fitting PV to existing buildings. It seems highly unlikely that all original designs allowed for PV. The problem becomes more acute when PV panels are ballasted to keep them in place – and will become more onerous again when (quite correctly) drifted snow around and among the panels must be considered.

The snow load shape coefficient over and around the panels depends on the overall height of the installation above the flat roof. PV panels on commercial and industrial buildings tend to be relatively shallow, so the increased snow load over the area is typically 25%. The increased loading extends for a drift length around the area of panels. An additional complication is that where the width of the panel array exceeds twice the height of the panels (every case, one imagines, for shallow sloped panels on a roof) then the front row and end row are treated like a parapet, where the snow load coefficient can easily be double that on a flat roof.

Snow on low buildings adjacent to taller structures

The Gen2 calculation of the unbalanced load on a low roof abutting a taller structure is undoubtedly quite involved. There is:

- The balanced (currently called "undrifted") snow on the lower roof, plus
- A contribution from snow sliding off the upper roof, plus
- A contribution from wind driven snow off both the lower and upper roofs.



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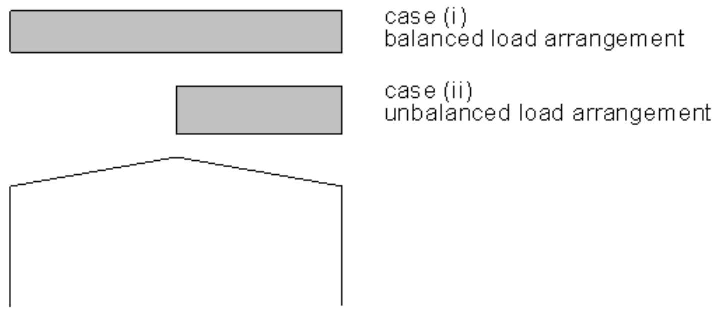


Figure 5 Load arrangements on a duo pitch frame

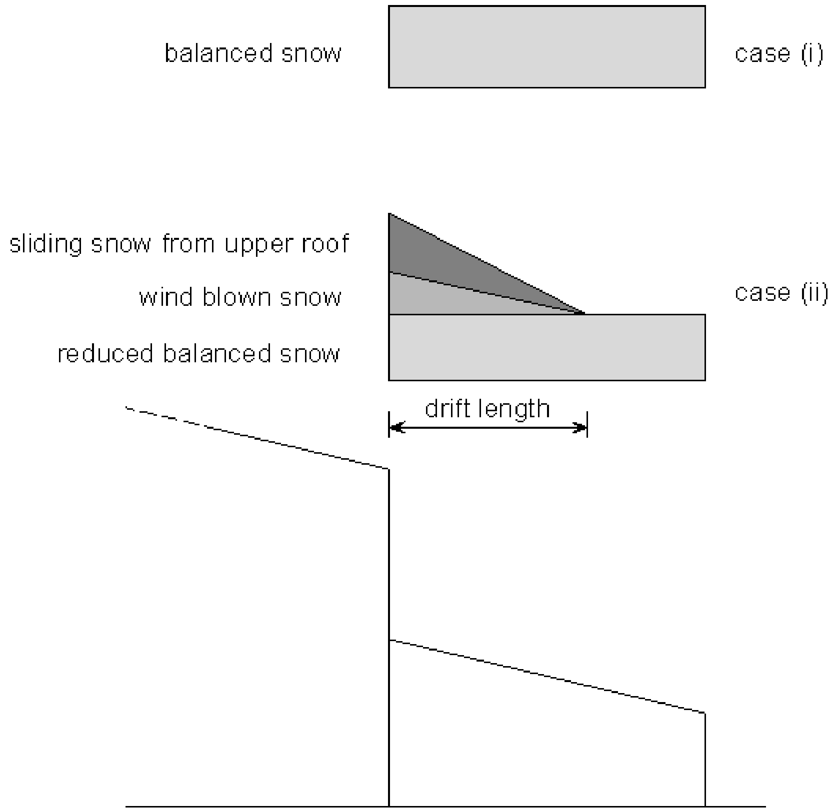


Figure 6 Snow load arrangement on lower structures abutting taller structures

The coefficients and unbalanced arrangement are illustrated in Figure 6.

Conclusions

Perhaps the most significant change is that the redistributed snow load cases are "normal" or "persistent" cases to be considered and no longer "accidental". As persistent design situations, the redistributed cases are likely to have an impact on the primary structure. In some situations Gen2 is more onerous, in other arrangements, less so.

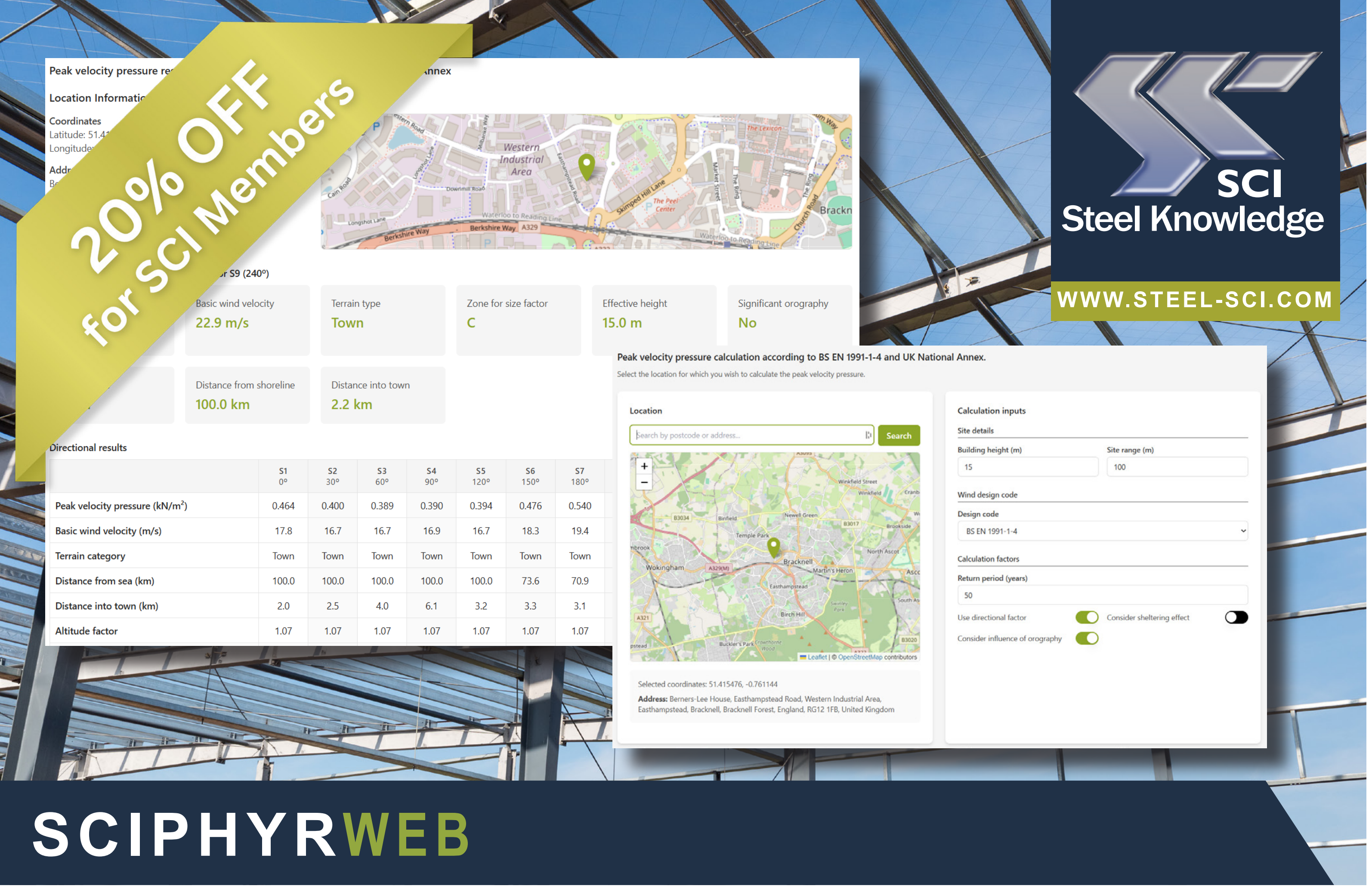
In common with many Gen2 codes, the changes involve a different calculation process to determine the outputs – in this case the snow load shape coefficients and drift lengths. Software provided by manufacturers of secondary steelwork and used to verify purlins under unbalanced ("drifted") conditions will need revision.

Current activities

A group of interested individuals is meeting to try and determine what should be presented in the UK National Annex, though the opportunity for national choice is limited and data to make an informed decision is scarce. One of the most important pieces of information is the snow zone map, where it is hoped that the Meteorological Office will assist. The UK NA to BS EN 1991-1-3 may be published for public comment later in 2026.

We are hosting a Lunchtime Webinar on Snow Loads to Generation 2 Eurocodes for SCI Members in September. For more information and to book your place, click here.

If you are interested in SCI Membership, contact 01344 636 525 or membership@steel-sci.com.



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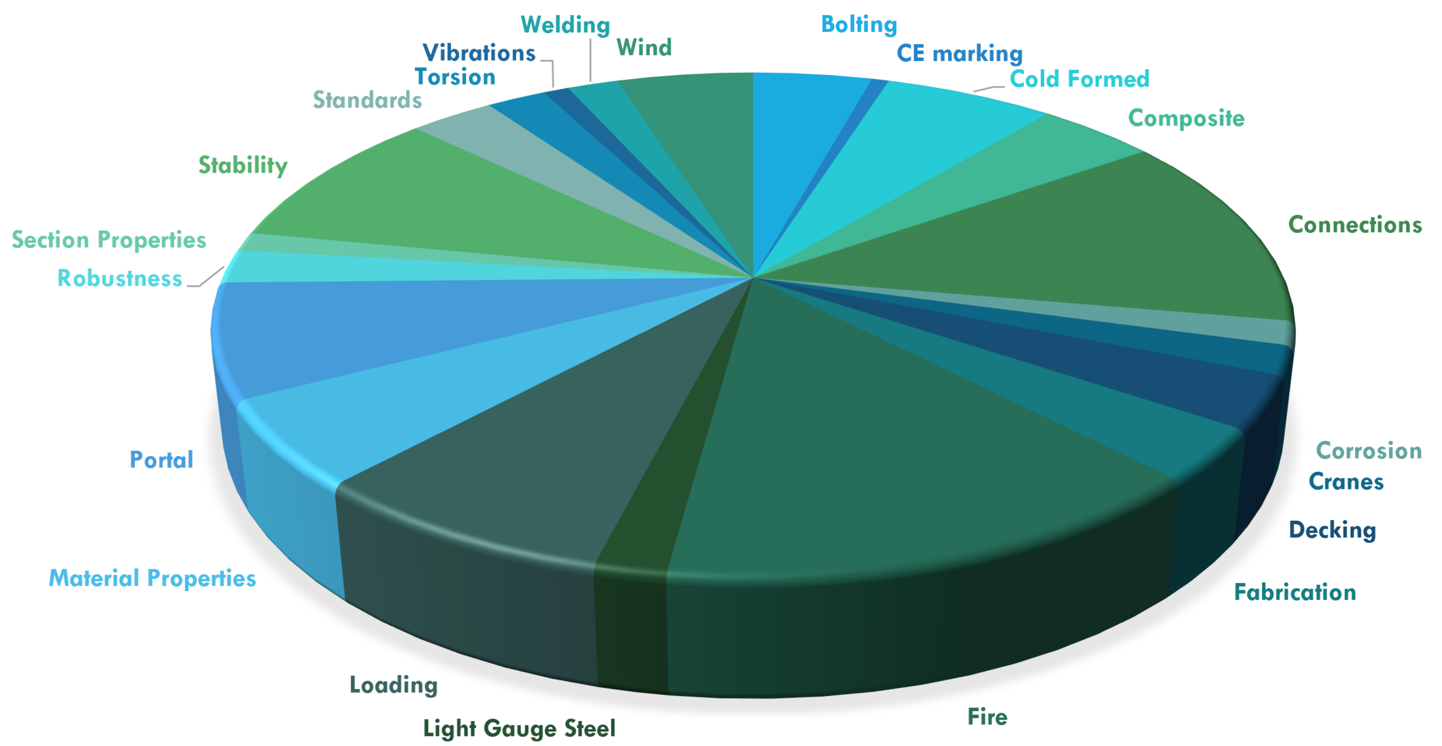
ADVISORY STATISTICS

A category breakdown of the queries our Advisory team have received in the last quarter:



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AD 556:

Class 4 cross-sections in the fire limit state

SCI's Advisory Desk is sometimes asked about the classification of cross-sections in the fire limit state. The purpose of this Advisory Desk Note is to remind designers of the additional reduction factor in BS EN 1993-1-2:2005 and to provide guidance on the treatment of Class 4 cross sections.

Members can view the full Advisory Desk Note content here.

AD 558:

Influence of transverse decking on shear stud resistance

SCI's Advisory Desk frequently receives queries regarding the provision of the minimum degree of shear connection in composite beams, particularly where there is insufficient space to accommodate the required number of shear studs when transverse trapezoidal decking is used. This Advisory Desk Note outlines a potential solution through the use of discontinuous decking with crushed ends, which can improve stud resistance and allow more flexible stud positioning.

Members can view the full Advisory Desk Note content here.

THE FOLLOWING ADVISORY DESK NOTES ARE WRITTEN BY SCI AND PUBLISHED IN NSC

AD 554 - Internal pressure and large openings

Read the full Advisory Desk Note here

AD 555 - Laser screed machines used during the construction of composite slabs

Read the full Advisory Desk Note here

TECHNICAL EXPERTISE

SCI provides its specialist expertise to companies working in steel from manufacture and design, to components and fabrication.

We help SCI members and clients design and improve their products and assist in differentiating them in a crowded marketplace through product innovation and independent assessment.

CONSULTANCY

EDUCATION

Our public courses and webinars keep engineers updated with the latest developments within steel design and equip them to design competently, efficiently and safely.

VIEW ALL TRAINING

PUBLIC COURSE

STEEL BUILDING DESIGN TO EC3

Delivered in 5 Sessions:
Pt 1: 15 Sept | Pt 2: 17 Sept
Pt 3: 21 Sept | Pt 4: 24 Sept
Pt 5: 25 Sept
Time: 10:00am-12:30pm (UK)

As the experts in steel design, the SCI have prepared this course as an overview of the Eurocode provisions for steel building design. The course focuses on orthodox construction, covering the primary design issues for practicing engineers. The course follows the process of determining actions, considering combinations of actions, frame analysis and the assessment of second order effects. The course will then demonstrate how the resistance of members are calculated, but also how they can be extracted immediately from resources such as the 'Blue Book'. Every delegate will receive a pdf copy of The Blue Book – Steel building design: Design data "Eurocode Blue Book" (P363) and the Concise Guide – Steel building design: Concise Eurocodes (P362). The course is aimed at structural designers who are involved with conceptual design, detailed design or checking of steel framed buildings.

BOOK YOUR PLACE

PUBLIC COURSE

DESIGNING IN STAINLESS STEEL

Delivered in 2 Sessions:
Pt 1: 13 Oct | Pt 2: 15 Oct
Time: 10:00am-12:00pm (UK)

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. As the demand for resilient and long-lasting structures with low maintenance requirements grows, applications for stainless steel in construction are increasing. Stainless steels are attractive and highly corrosion resistant steel alloys, with good strength, toughness, and fatigue. They are used for structures in coastal environments, exposed to deicing salts or in heavily polluted locations. The differences in properties and behavior compared to carbon steel will be highlighted. Each delegate will be given a PDF copy of 'Design Manual for Structural Stainless Steel (P413)'

BOOK YOUR PLACE

PUBLIC COURSE

DESIGN OF LIGHT STEEL FRAMED BUILDINGS

Delivered in 2 Sessions:
Pt 1: 17 Nov | Pt 2: 19 Nov
Time: 10:00am-12:00pm (UK)

This course introduces the uses and typical applications of cold formed steel with particular focus on load-bearing light steel framing.

Specific structural design issues related to light steel framing are addressed, including; robustness and avoidance of disproportionate collapse, connection design and floor serviceability conditions. Other specific topics that are covered include: durability, acoustic performance, NHBC Standards Chapter 6.10 and tolerances.

Each delegate will receive a PDF copy of SCI Publication P402 "Light Steel Framing in Residential Construction"

BOOK YOUR PLACE

SCI MEMBER WEBINAR

SNOW LOADS TO GENERATION 2 EUROCODES

Date: 16 Sept
Time: 12:30-13:30pm (UK)

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.

BOOK YOUR PLACE

SCI MEMBER WEBINAR

PORTAL FRAMES

Date: 07 Oct
Time: 12:30-13:30pm (UK)

SCI Publication P399 is widely regarded as the backbone of portal frame design in the UK. With the publication of the second generation of Eurocodes, SCI has begun revising this guidance. 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.

BOOK YOUR PLACE

SCI MEMBER WEBINAR

ACOUSTIC DESIGN FOR STEEL FRAMED BUILDINGS

Date: 11 Nov
Time: 12:30-13:30pm (UK)

This webinar will provide an introduction to the sound and acoustic performance of steel framed buildings. It will include background information on sound and implications for acoustic detailing, regulations and requirements

BOOK YOUR PLACE

SCI Courses

SCI Webinars

2026 August

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24 / 31	25	26	27	28	29	30

2026 September

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15 Steel Building Design to EC3	16 Snow Loads to Gen 2 Eurocodes	17 Steel Building Design to EC3	18	19	20
21 Steel Building Design to EC3	22	23	24 Steel Building Design to EC3	25 Steel Building Design to EC3	26	27
28	29	30				

SCI Steel Knowledge

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SCI Courses

SCI Webinars

2026 October

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	4
5	6	7 Portal Frames	8	9	10	11
12	13 Designing in Stainless Steel	14	15 Designing in Stainless Steel	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

2026 November

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11 Acoustic Design for Steel Framed Buildings	12	13	14
15	16	17 Design of Light Steel Framed Buildings	18	19 Design of Light Steel Framed Buildings	20	21
22	23	24	25	26	27	28
29	30					

SCI BOOKSHOP

SCI's high quality publications continue to be used as the definitive guidance within the sector. SCI is focussed on providing the latest and best information to ensure best practice is maintained across every aspect of steel

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SOCIAL

Check out our upcoming events and keep in touch with us on our social media channels.

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MEET THE TEAM: YIGIT OZCELIK

Yigit is a Principal Structural Engineer at SCI, with experience spanning consultancy, research, and academia in the UK, US, and Türkiye. He is a Chartered Structural Engineer (CEng, MIStructE) and licensed Professional Engineer (PE, North Carolina), specialising in performance-based seismic design and nonlinear structural analysis. At SCI, his work primarily involves conducting applied research, performing finite element analysis of components and systems exposed to fire, and writing technical publications. Yigit completed his PhD at The University of Texas at Austin as a Fulbright Scholar, where his research focused on the seismic performance of steel plate shear walls.

What drew you to structural engineering?

YO: My interest in structural engineering goes back to the 1999 Kocaeli Earthquake in Türkiye – a major event that caused widespread structural damage and significant loss of life. I was a young boy living very close to the epicentre. Witnessing the devastation first-hand had a lasting impact on me and showed me that structural engineers can make a real difference to people's lives, which ultimately led me to the profession. The poor performance of reinforced concrete and masonry buildings during the earthquake also shifted my focus toward steel structures, which later became a key focus area.

How did you develop your expertise in seismic design?

YO: My work has consistently focused on the seismic behaviour of steel structures. I began with a master's degree in structural engineering, specialising in the seismic performance of concentrically braced frames, followed by several years in industry designing structures in seismic regions. I then completed my PhD before moving into academia, where I further developed this expertise through research and teaching.

Drawing on these experiences, I recently delivered a course on Eurocode 8 at SCI. Looking ahead, I would like to continue supporting engineers working on projects in earthquake-prone areas and contributing to the advancement of seismic design practice.

Why SCI?

YO: I had been familiar with SCI publications since my early career. While working on the Muscat International Airport project back in 2012, I regularly referred to SCI guidance when designing to BS 5950. After moving to the UK, I was keen to join SCI and contribute to the wider profession rather than focusing on individual engineering projects. SCI's role in bridging research and practice was a key attraction.

At SCI, I value collaborating with colleagues who are generous with their knowledge, supportive, and open to exchanging ideas across a wide range of technical areas. This culture of collaboration makes SCI a particularly enjoyable place to work and supports continuous professional development.

What does your work at SCI involve?

YO: My work spans a range of topics related to steel structures, with structural fire engineering forming a major part of my current activities. One of the current projects I am most excited about is the update of SCI P399, Design of Portal Frame Buildings, for the 2nd Generation Eurocodes. As portal frames account for around half of the structural steel used in the UK, I am pleased to contribute to guidance that will support a large part of the industry. Working on this project alongside David Brown, a renowned expert in portal frame design, has been particularly rewarding for me.

What do you do outside work?

YO: Much of my free time is spent with my three-and-a-half-year-old daughter, Pera, who keeps things busy and energetic. When time permits, I enjoy reading history books and watching basketball, having played semi-professionally in my younger years – a chapter of my life that now feels far away!

Yigit Ozcelik, Principal Structural Engineer, SCI
Connect with Yigit on LinkedIn

LIAM'S MARATHON TRIUMPH

A big thank you to those of you who sponsored our Advisory Desk Lead, Liam, who ran the London Marathon in April. We are proud to say that Liam crossed the finish line with a time of 3 hours and 14 minutes and raised an incredible **£4,906** for the fantastic Cardiac Risk in the Young (CRY), in memory of a colleague's son.

SCI's Nancy Baddoo at the Duplex World Conference

SCI: A GLOBAL LEADER

SCI's Nancy Baddoo gave the opening keynote presentation at the Duplex World Conference in The Netherlands, in May, discussing structural duplex stainless steel - a solution for modern infrastructure challenges.

In June, SCI delivered a live webinar series for an audience of Chinese designers and researchers on structural stainless steel. The webinars were delivered by Nancy Baddoo and Dr Francisco Meza of SCI, in partnership with Dr Baofeng Zheng at Southeast University, Nanjing, China, with support from the International Molybdenum Association.

As well as giving a general introduction to the use of structural stainless steel and relevant Chinese product standards, design rules for members and connections in accordance with the stainless steel Eurocode, EN 1993-1-4 and with the Chinese design standard for stainless steel, CECS 410 were presented. Issues such as fire resistant design and seismic response were also covered. The webinars were well received and a further series is being planned.

Also in June, SCI's David Brown was invited to speak at the MCRMA Technical Conference in Shropshire, UK. The topic was fire boundary elevations, required to prevent fire spread between neighboring buildings. David was a contributor to the development of the technical specification published by BCSA in 2025, which requires the use of fire-resistant cladding supported from a "capable member". The presentation covered the necessity to demonstrate a load path to maintain the cladding support based on a standard compartment fire scenario. David explained the design requirements for the capable member and the critical features of the cladding support system.

Earlier this month, Dr Graham Couchman and David Brown presented at the IStructE Northern Ireland event, discussing practical implications for structural steel design, current uncertainties, and how engineers should be preparing for ahead of the transition to the Second Generation Eurocodes.


SCI's David Brown presenting at the MCRMA Technical Conference

UPCOMING EVENTS

OFFSITE AWARDS

We are thrilled to, once again, be sponsoring The Best Use of Steel Technology category at the Offsite Awards 2026 on **15 September 2026** in **Birmingham, UK**.

This category will reward the outstanding use of light gauge steel frame and related constructional steel elements in a project across any UK construction sector.

Including structural frame, walls, floors and roofing, cladding and complementary components, the entrant will have used steel as a key material in delivering a top-quality, precision factory-controlled, sustainable offsite solution.

Special attention will be given to how steel has been used throughout the project, its material performance levels, circular economy principles and finished projects should clearly demonstrate how sustainability, cost-predictability, accuracy, transportability, speed of installation and wider principles of lean manufacture have been achieved.

FABIG
FIRE AND BLAST INFORMATION GROUP

SCI's Fire And Blast Information Group (FABIG) will be collaborating, once again, with the Centre for Chemical Process Safety (CCPS), the European Process Safety Centre (EPSC), the IChemE Safety Centre (ISC), and the Mary Kay O'Connor Process Safety Centre (MKOPSC) to organise International Process Safety Day 2026, to be held on **2nd December 2026**.

This will be a virtual, full-day event, held on Tuesday 2nd December 2026. The IPSD 2026 will provide more than 8 hours of technical contents (incl. presentations, case studies and panel discussions) sharing advances in process safety. The programme will be repeated over a 24 hour period, so that delegates from all time zones will be able to view the full programme.

Registration is free of charge and will be open shortly.

WELCOME TO THE TEAM

SCI is pleased to welcome Hou Un Chan to the team as our new Engineer.

Hou recently completed his PhD at Imperial College London, where his research focused on the design of structural steel systems using advanced analysis. His expertise will further strengthen our work in steel construction and make a valuable contribution to our research and practice.

We are delighted to have him on board and look forward to working with him on future projects.

SCI VACANCIES

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STEELBIZ

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NEWS & MEDIA

STRENGTHENING INDUSTRY PARTNERSHIPS THROUGH PRACTICAL LEARNING

'Recently, we have had the opportunity to host young engineers from both BWB Consulting and Waterman Group at our Moorgreen facilities for a series of successful welding days. These sessions form part of our ongoing commitment to collaboration, knowledge-sharing, and showcasing the expertise that underpins Caunton Engineering.

Each visit brought together small groups of engineers and technical specialists for an immersive experience that combined both theory and hands-on practice. The days began with guided tours of production facilities, offering visitors a behind-the-scenes look at how we deliver complex steel projects, from fabrication through to final assembly. These tours provided valuable insights into our processes, quality standards, and the scale of projects we support across the UK.

A key highlight of both visits was the opportunity for attendees to take part in interactive manual welding sessions within our in-house Training Academy. Under the guidance of our skilled team, visitors were able to experience firsthand some of the techniques and disciplines involved in welding, bringing classroom theory to life in a practical, engaging way.

Our apprentices played an especially important role throughout. From assisting with demonstrations to sharing their own experiences of developing skills on the job, they helped create a collaborative and welcoming environment. Their involvement not only supported the sessions but also demonstrated the strength of our training programme and the next generation of engineering talent. These events are about far more than technical learning. They provide an opportunity to strengthen relationships with our partners, encouraging open dialogue, mutual understanding, and closer working ties. By bringing industry peers into our facilities and sharing our day-to-day operations, we continue to build trust and reinforce our position as a collaborative and forward-thinking partner.

Feedback has been extremely positive, highlighting the value of combining technical insight with experience. The sessions have not only deepened understanding of welding processes but also helped bridge the gap between design, engineering, and manufacturing disciplines.

As we look ahead, we remain committed to hosting similar initiatives that promote collaboration and continuous learning across the sector. These opportunities allow us to learn from one another, strengthen industry connections, and continue raising standards across the board.

A big thank you to everyone involved in organising and delivering these sessions, your efforts help ensure every visit reflects the best of what we do.'

For more information, visit www.caunton.co.uk

caunton ENGINEERING

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Steel Knowledge

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