

SHERPA news

THE MAGAZINE

SHERPA

Issue 06/2025



Image: Lorry terminal of HASSLACHER PREDING Holzindustrie GmbH

A WORKING WORLD MADE OF WOOD

Naturally built, smartly connected: the new office of HASSLACHER PREDING Holzindustrie sets new standards – with PEFC certificate, moss wall and SHERPA.

ENGINEERD TIMBER IN FOCUS

Network, share,
discuss: the IHBT

CONNECTED WITH INTELLIGENCE

SHERPA technology for
CLT narrow sides

EUROCODE 5 BACKSTAGE

A look behind
the scenes



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The new design guide concisely summarises all the key facts and figures.

The guide supports the simple design of all SHERPA products and enables quick and cost-effective planning.

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EDITORIAL

More than connectors: solutions that connect.

Dear partners, Timber construction is developing rapidly – and our solutions are evolving along with it. SHERPA stands for integrated system concepts that place efficiency, safety and quality at the centre. Our system connector solutions enable dealers to supply structural joints directly from stock – following a clear, standardised principle. Fabricators benefit from a fast, safe and high-performance solution for production and assembly. Structural engineers can plan and calculate flexibly, with assured quality and traceability.

Whether cross-laminated timber, glulam, BauBuche or solid timber – with SHERPA, it is possible to realise competitive constructions that stand up to other building methods. Our solutions comply with BIM standards and are designed in a way that they can be dismantled and removed, supporting a sustainable approach to construction. In addition, our Sonus system sets new standards in sound insulation.

We offer a complete solution that further strengthens timber construction for future generations. Our thanks go to all partners who walk this path with us.

We remain innovative – for your success!

Vinzenz Harrer
Managing Director of
SHERPA Connection Systems GmbH


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equally addressed at all times. · Circulation: 15,000 copies

SUCCESS STORY

FROM Material TO
**Commitment
to values**





The new office building of HASSLACHER PREDING Holzindustrie: a statement in wood – systematically connected. Sustainably conceived, architecturally precise, technologically smart. A structure that shows conviction and shapes the future – with timber products from in-house production and system solutions that connect architecture and technology.



KEY DATA

Office building HASSLACHER
 PREDING Holzindustrie GmbH

Location: Preding, Styria
 Year of construction: 2024
 Architecture: Trecolore Architects
 Structural engineering: Luggin ZT GmbH
 Client: HASSLACHER Group
 Developer: HASSLACHER
 PREDING Holzindustrie GmbH
 Timber construction: Holzbau
 HOFER GmbH (a company of the
 HASSLACHER Group)

Special features:

- 2,221 m² gross floor area
- 1,000 m³ timber products from the HASSLACHER Group
- Timber construction time: 6 weeks
- PEFC-certified
- SHERPA connector system
- Smart building technology & moss wall
- Extensive green roof

PEFC Award for Preding:

Three comprehensive audits, 100% verification – the new office building demonstrates how consistently sustainability can be implemented in timber construction when origin, processing and documentation work together perfectly.

Efficiency meets aesthetics: the logistics and delivery areas at the site are also built using timber construction – with integrated system solutions >



In Preding, around 30 kilometres south of Graz, wood has not only taken shape – but also taken a stand. With the new office building of HASSLACHER PREDING Holzindustrie GmbH, an ensemble has been created that embodies the spirit of modern timber construction not only structurally but also ideologically: ecologically conceived, constructed with precision, and designed with intent, and all with a high degree of prefabrication, appropriate to contemporary timber building.

Architecture that stands out – and makes a statement.

The three-storey timber structure, with its striking cantilevers, exposed surfaces and clean lines, forgoes loud gestures – and gains strength precisely because of it. The structure is a skeleton frame – the effect is holistic. No cube is like the other, yet all are connected – both inside and out. That this project was completed in just eight months is thanks not least to the high level of prefabrication, a well-coordinated planning team and thoughtful connection technology. “In modern timber construction, innovative efficiency is key – and this is exactly

where SHERPA Connections delivered with intelligent solutions,” explains DI Thomas Bierbacher, Managing Director of HASSLACHER PREDING Holzindustrie GmbH.

The SHERPA system is used wherever force-fit, removable connections are required – for example, in load-bearing joints or connections to façade elements. For the executing company, HOFER Holzbau, a subsidiary of the HASSLACHER Group, this is a clear advantage.

Gregor Fehlmann, Operations Manager at Holzbau HOFER GmbH: “The SHERPA connector is a brilliant solution: secure, robust and flexible. The slightly higher price is easily offset by the efficiency on site. Definitely something with a future.”

Wood with origin – and integrity

Behind the material is a closed system: around 1,000 m³ of timber products come from the HASSLACHER Group’s own facilities – from the sawmill and planing mill to the glulam and cross-laminated timber production. For the pure timber skeleton

structure, 232 m³ of glulam was used, and for particularly highly stressed components, glulam made from birch was selected. Intermediate floors, partition walls and roof areas are made from 655 m³ of cross-laminated timber with an excellent spruce surface finish.

This choice of material is not only technically sound but also defines the design: visible surfaces, in combination with natural light, create a spatial atmosphere that redefines modern workspaces – warm, bright, inspiring.

Special emphasis was placed on traceability: every installed beam, girder, post and panel is certified, traceable and documented in accordance with PEFC standards. The result: the PEFC Award in the “Chain of Custody” category.

System thinking translated into architecture

What at first glance appears to be an aesthetic play of forms is, on closer inspection, a structured solution: wood as a load-bearing structure, as a spatial framework, as an embodiment of identity. SHERPA’s connection solutions

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SOLUTIONS.”**

DI THOMAS BIERBACHER,
MANAGING DIRECTOR OF HASLACHER
PREDING HOLZINDUSTRIE GMBH

support this concept. They not only connect components, but also enable serial, precise manufacturing – with shorter assembly times and high levels of safety. A solution that will prove scalable and powerful for future projects as well.

The subject of connection here is more than just a technical matter – it is a mindset. The commitment to joining materials without destroying them. To creating structures that can later be taken apart again. A way of thinking that suits both temporary and permanent construction – and always includes a sense of responsibility.



**Naturally smart and intelligently
designed
down to the last detail**

Yet timber alone does not make a building. What matters is how it is used. And how it is embedded within a complete technological context. In Preding, that has been successfully achieved.

The building is equipped with intelligent technology: controlled ventilation with heat recovery, energy-efficient heat pumps, and an automatically regulated sun protection system ensure a pleasant indoor climate all year round. A twelve-metre-high moss wall in the atrium additionally regulates humidity – and creates a green focal point in the building.

On the flat roof, extensive greenery provides cooling and biodiversity. The energy is supplied by a PV system, which powers not only the building but also charging stations for e-bikes and electric vehicles.

Sustainability doesn't stop with the choice of building material: it is carried through to operational behaviour.

Perpendicular-to-grain reinforcement in system connectors

Efficiently dimensioned – safely reinforced

System and hanger connectors transfer high forces into timber components. When transverse forces are introduced into the end grain of the secondary beam – for example, by dense groups of fasteners – a so-called notching situation arises.

This is regulated in Section 6.5.2 (1) of ON B1995-1-1:2019: shear connections with fasteners that have a distance ($h - h_{ef}$) from the bottom edge of the beam must be designed as notches with a height of h_{ef} .

Whether the critical check for perpendicular-to-grain tension must be performed in the main or secondary beam depends on the connector's position – simply put: mounted at the top → check in the secondary beam; mounted at the bottom → check in the main beam.



Figure 1: Geometric parameters for software-supported perpendicular-to-grain tension design

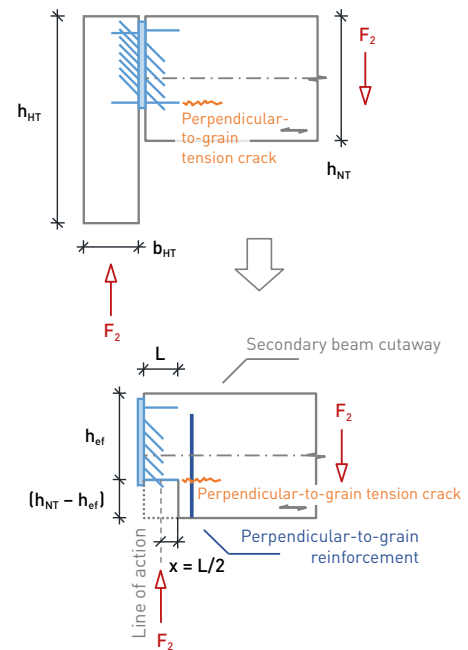


Figure 1 shows the required geometric relationships for software-supported reinforcement design. The line of action of the force lies at half the length of the moment screw. The total screw length also serves as the conservative notch length. The height h_{ef} is defined from the top edge of the secondary beam to the screw axis of the lowest moment screw.

If the local shear check according to EC 5 is not fulfilled, fully threaded screws,

for example, enable efficient reinforcement. Guidance on the design of reinforcement measures can be found in EC 5 and in the respective ETA documents of the screw manufacturers, and can be efficiently dimensioned using common design tools.

For technical enquiries, the SHERPA support team is available at support@sherpa-connector.com.



Strong even on the narrow side. Cross-laminated timber elements offer a wide range of structural possibilities – but secure connections at the narrow side require special care. With its system connector, SHERPA provides a proven solution that also performs reliably in this area.

Modern timber constructions today combine high technical performance requirements with ecological and sustainable building methods. An example of this is buildings made from cross-laminated timber elements, which offer countless design options for implementation. A crucial component is the connection of these elements. The SHERPA connector, a versatile system connector for various timber-to-timber, timber-to-concrete, and timber-to-steel connections, is also suitable for connecting components made from cross-laminated timber (CLT).

Connecting CLT elements

Similar to a conventional main-to-secondary beam connection, the SHERPA connector can also be used to attach linear components made from cross-laminated timber (see Figure 1). The connec-

tion is made, for example, to a side or narrow face of a cross-laminated timber wall panel. However, when connecting to the narrow face of cross-laminated timber elements, several specific factors must be considered.

Load-bearing capacity of the SHERPA connector on the narrow face of CLT

To optimise cross-laminated timber elements for use as wall and ceiling components, manufacturers generally adjust the quality of the individual layers to achieve high strength in the face layers and in the primary load direction. For economical product implementation, it is possible that the base material used for the inner layers is classified into a lower strength class. Some cross-laminated timber ETAs also specify partial strength classification for the inner

LOAD-BEARING CAPACITY

SHERPA

for the narrow side of cross-laminated timber elements

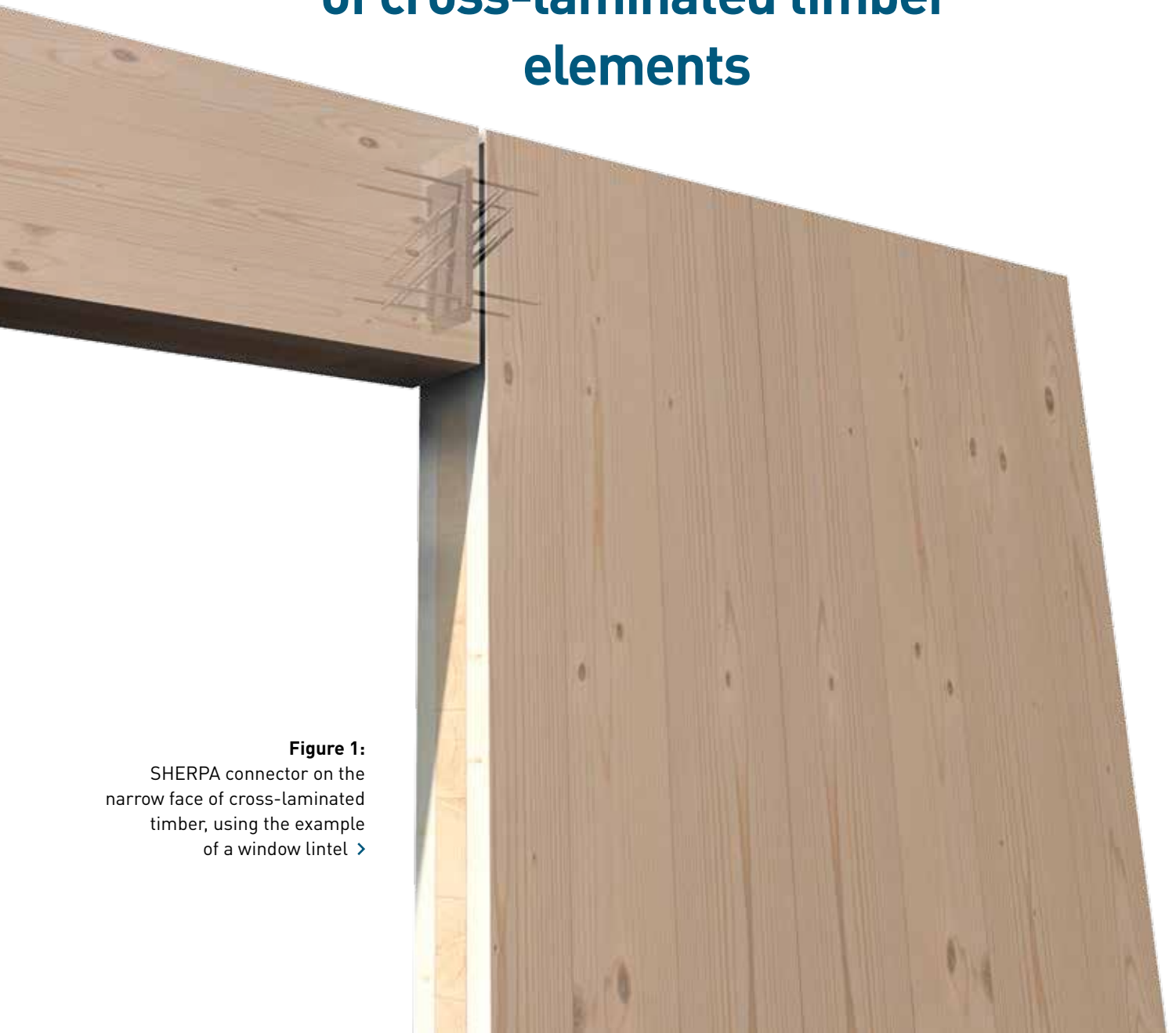


Figure 1:
SHERPA connector on the
narrow face of cross-laminated
timber, using the example
of a window lintel >



Load-bearing capacity of the SHERPA connector in the insertion direction when connected to the narrow side of CLT

$$R_{z,k,CLT-narrow} = k_{gap} \cdot R_{z,k,C24} \cdot k_{dens}$$

with

$$k_{dens} = k_{sys} \cdot \left(\frac{\rho_k}{350} \right)^{0.8}$$

with

k_{gap} factor for accounting for gaps between the inner board layers

}	0.70 for series XS, S and L (screw dimension 8 x 140 mm)
	0.80 for series M
	0.85 for series XL, XXL and L (screw dimensions 8 x 100 and 8 x 120 mm)

$R_{z,k,C24}$ characteristic load-bearing resistance in the insertion direction for strength class C24

k_{sys} system factor, recommended $k_{sys} = 1.0$

ρ_k characteristic bulk density of the base material for the inner layers of the CLT

“THE SHERPA CONNECTOR ALSO OFFERS SOLUTIONS FOR SOLID TIMBER CONSTRUCTION USING CROSS-LAMINATED TIMBER.”

URSULA MAHLKNECHT,
FREIRAUM ZT GMBH

layers, for example $\leq 30\%$ C16 or T11. Since the SHERPA connector is mounted precisely in this zone when attached to the narrow side, it is advisable to consider the reference density for these layers.

The characteristic density for a combined strength class can be statistically determined. However, as the result only deviates slightly from that of the lower strength class, the characteristic value of the lower class is conservatively used; in the example mentioned, this is $\rho_k = 310 \text{ kg/m}^3$.

Accordingly, this value can be used for the density correction factor k_{dens} when calculating the load resistance of the SHERPA connector in the insertion direction $R_{z,k}$. Because the screws in narrow-side installation do not always penetrate multiple layers, a conservative value of $k_{sys} = 1.00$ should be applied. If gaps between the (inner) board layers cannot be ruled out, a further reduction via the factor k_{gap} is introduced. The load-bearing model for the SHERPA connector is based on the axial load-bearing capacity of the inclined screws. Similar to the WCTE conference

paper by R. Brandner (2016, Group actions of axially-loaded screws in the narrow face of cross laminated timber), which analyses the influence of gaps on withdrawal resistance in the narrow face of CLT, the SHERPA connector considers various possible positions of inclined screws at a maximum gap width of 6 mm, a minimum board width of 80 mm, and layer thicknesses from 20 to 40 mm. The axial load-bearing capacity is reduced proportionally to the screw positions in the gaps. As a result, different k_{gap} values apply depending on the SHERPA series and screw lengths used.

Unlike the inclined screws, the axis of the moment screws runs parallel to the gaps. Positioning the moment screws within the gaps should generally be avoided.

For load resistances in other stress directions, similar assumptions can be made based on the underlying models (see SHERPA Manual 2016). Finally, as with solid timber and glulam beams, potential local timber failure mechanisms must also be considered and appropriate reinforcement measures implemented where necessary. For



Figure 2:
SHERPA connector
on the narrow face
of cross-laminated
timber – concealed
installation in the wall
area ▼



example, verifying notches at the secondary beam or transverse connections at the main beam.

Summary

The SHERPA connector also offers a simple and reliable solution for the narrow side of cross-laminated timber elements.

By taking into account the density of the inner layers as well as possible gaps, the calculation model for the conventional main-to-secondary beam connection can also be applied to SHERPA connections on the narrow faces of cross-laminated timber.



FREIRAUM ZT GMBH CIVIL ENGINEERING CONSULTANCY

We focus on structural planning and architecture, placing great importance on resource-efficient use of materials, along with high standards of quality and sustainability. Accordingly, wood often plays a central role in our projects as a building material.

www.freiraum.engineering



THE DATES AT A GLANCE:

- 09/09/2025 – Graz
- 10/09/2025 – Innsbruck
- 16/09/2025 – Berlin
- 30/09/2025 – Zurich
- 01/10/2025 – Stuttgart

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INGENIEUR- HOLZBAU- TAGE 2025

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Shaping timber
construction. Expanding
perspectives.**



“THE IHBT STANDS FOR EXCHANGE BETWEEN PLANNING, PRACTICE AND RESEARCH ON EQUAL FOOTING.”

BERND STRAHAMMER,
MARKET AND PRODUCT MANAGEMENT
– SHERPA CONNECTION SYSTEMS

The Ingenieur-Holzbaue-Tage 2025 (“Engineered Timber Construction Days” – IHBT) invite you to join: an event series for everyone who wants not just to calculate structures, but to understand and design them. Engineers, planners and practitioners will come together at five events to share knowledge, network, and collaboratively shape the future of timber construction.

From Graz to Berlin, from Zurich to Innsbruck – the IHBT is bringing momentum to engineered timber construction. Included are leading industry partners such as SHERPA Connection Systems, Schmid Schrauben Hainfeld and STEXON. Together, they stand for concentrated expertise, current topics and practical solutions.

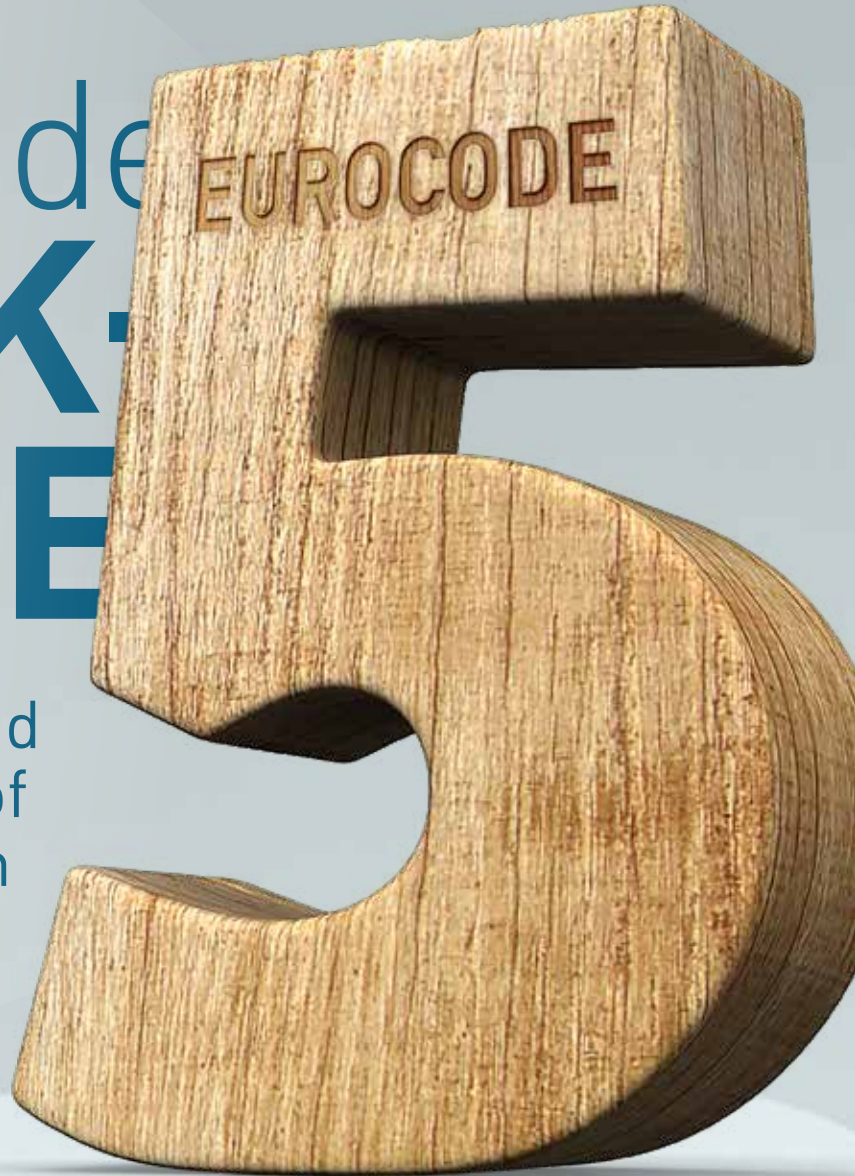
Each event day begins with a shared light lunch. This is followed by two lecture blocks offering valuable insights into current challenges and developments in engineered timber construction. The day concludes with an exclusive networking event – whether in an inspiring venue or integrated directly into the program.

In-depth content, personal exchanges, fresh impulses: the IHBT 2025 combines the best of professional development and networking – in an atmosphere that fosters dialogue and partnership.

INTERVIEW

Eurocode BACK- STAGE

A look behind
the scenes of
standardisation



Standards are the foundation of timber construction – but their development is complex. Ulrich Hübner is active in the CEN/TC 250/SC 5 standards committee, helping to shape practical solutions for modern timber construction. In this interview, he discusses cooperation between CEN and ASI, the challenges of harmonisation, and Austria's influence on the standardisation process.

Mr. Hübner, you represent Austria's interests in CEN/TC 250/SC 5, the body responsible for developing Eurocode 5. What does your work there involve, and what responsibility do you carry in this international context?

There are 34 CEN member states involved in the development of European standards. Austria holds a weighted voting share of 1.46%. To make an impact as an Austrian delegate, you must convince others with well-founded, targeted proposals. You have to be present, competent, trustworthy and willing to compromise. The Austrian committees and working groups jointly develop proposals for improving the standards, vote on them, and coordinate participation at CEN level.

CEN/TC 124 deals with timber construction products and test methods, while CEN/TC 250/SC 5 focuses on the design of timber structures. As Austria's head delegate, I bring the positions previously developed in Austrian committees into the discussions and vote in the meetings. For the past three years, I have led the working group on connections in Eurocode 5. Other Austrian delegates participate not only in various European working groups, but also in the main committees. Standards work is always team work.

The ASI mirrors the European committees in national committees and working groups. How does the cooperation between CEN and ASI function,

“PRAGMATIC SOLUTIONS AND WELL-FOUNDED ARGUMENTS ARE KEY TO DEVELOPING EUROPEAN STANDARDS IN A WAY THAT REFLECTS REAL-WORLD PRACTICE.”

ULRICH HÜBNER,
RESEARCH AND STANDARDISATION,
AUSTRIAN WOOD INDUSTRY
ASSOCIATION

particularly when adapting the Eurocodes to national conditions?

If full harmonisation isn't achieved at European level, then national parameters are allowed – safety factors, for example – and national additions must be consistent. Rules not applicable everywhere can also be included as informative annexes. These annexes can then be nationally standardised, modified or removed. So there are many ways to adapt the standards. Given our high export share, our main goal is to inform other CEN members about Austrian experiences and insights and to convince them of Austrian solutions. At the same time, we are happy to learn from others as well.

In your view, what are the biggest challenges when trying to harmonise the interests of different countries within CEN? Can you share examples from your work on Eurocode 5?



Objectivity in discussions, the willingness to understand, explain and argue a point – these are essential. It's about striking the right tone and showing that you're seeking the best possible solution. The European execution standard FprEN 1995-3 had to reconcile very different national traditions. Germany has had detailed and proven regulations for bonded timber connections for decades. Other countries have no rules at all, or much looser ones. Switzerland joined the process late, but all the more forcefully. The foundations for stronger harmonisation of execution practices have been laid, but it's still a long road ahead.

Eurocode 5 is of central importance for timber construction throughout Europe. How do you ensure that Austrian strengths and interests are reflected in international standardisation?

Austria has a long tradition in timber construction. We have many highly trained and experienced craftspeople, technicians and engineers working in excellent firms. The Austrian Wood Industry Association, the Federal Guild of Timber Construction, and the Pre-



fabricated House Association all work to bundle this expertise within various working groups. The experts in ASI's committees come from engineering offices, academia, manufacturers, carpentry businesses, and even the building authorities. It's a real pleasure to work with such smart people, to learn from them, and to bring Austrian positions to CEN with strong arguments and the necessary conviction.

There is a complex and often lengthy process behind a standard like Eurocode. Do you have any anecdotes or special experiences from your time with CEN that you'd like to share?

Over the last ten years, there have been many joint meetings, initially in person, and mostly online since 2020. I've gotten to know the people behind the experts, and friendships have developed. Discussions around Eurocode 5 could get intense – newly involved members sometimes reopened already-established compromises. But no one ever yelled or became personally offensive. Once, we had a session in Vienna on a product standard, and on the second day

a HAS consultant joined us. We spent the whole day wrapped up in absurd quibbling over wording. Everyone was incredibly frustrated, and a Swedish professor dropped the F-word in English. An Austrian colleague later told me, "If you ever invite me to something like that again, I'll give you a slap." He was joking, but not entirely.

Standardisation is often seen as "dry". What role do creativity, negotiation skills and sensitivity play in your work?

From the outside, it often looks like endless discussions about details. The strategies and broader context behind those details aren't immediately apparent. Standards often have the force of law, so wording, every equation, diagram and table matters. It's about life, health, and a major impact on the environment, often across many countries. That puts limits on creativity. But negotiation skills are essential. You're often dealing with strong personalities and alpha types – very intelligent, knowledgeable and experienced people. Sometimes, pride, arrogance, envy, vanity or narcissism come into play. There

◀ Innovative structures need well-designed standards. The new Eurocode 5 better reflects the diversity of possible timber construction methods and makes practical application easier.

are times when I have to contradict a world-renowned professor. But the other person must always sense that it's about improving the matter at hand, that I have respect and am happy to adopt smarter solutions.

When the new Eurocode 5 comes into effect, it will bring not only technical changes, but also practical consequences. How can planners and engineers best prepare for these changes?

There's good reason to look forward to the new Eurocode: it's the most systematic structural design standard for buildings worldwide. The core concept hasn't changed. In timber construction, the wide range of possible designs is now much better covered. That makes the Eurocode longer and required greater systematisation – for example, through clearer material classifications and abbreviations. It takes time to read and internalise. Seminars can help to understand the content and relationships more effectively, and to practice application. Most sections will be accompanied by explanatory background documents.

What personally motivates you in your work, both nationally with ASI and internationally within CEN?

My motivation comes from working with intelligent, knowledgeable and experienced people. I enjoy insightful contributions, I greatly value experienced craftspeople, and I like learning from them. These social relationships make the pursuit of the best possible technical solutions a pleasure.

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SHERPA NEWS

ALWAYS UP TO DATE

NEW EXPERTISE FOR STRONGER CONNECTIONS: MICHAEL GSTETTNER JOINS SHERPA

With Michael Gstettner, the SHERPA team gains an expert who combines technical depth, research experience and practical relevance. For customers, this means even more concentrated know-how and new momentum for the further development of connection technology.

“I want to build a bridge between research and practice,” says Gstettner, describing his motivation. As Product & Development Specialist, he contributes his expertise primarily to product development, knowledge transfer and technical consulting – always closely integrated with the existing team. His work strengthens professional support for structural engineers and fabricators, with the goal of making the application of SHERPA systems even safer, simpler and more cost-effective.

Gstettner also contributes to SHERPA’s knowledge sharing: as a speaker at specialist events, a contact for collaboration with universities and research institutions, and a developer of technical content for training and publications.

For structural engineers, fabricators and customers, this means: an even broader-based team offering expert support and practical experience – whether for specific questions, projects, or knowledge transfer.

With Michael Gstettner, SHERPA expands its technical expertise – for robust solutions and practical knowledge transfer in timber construction.



MICHAEL GSTETTNER
A WARM WELCOME

Name Ing. Dipl.-Ing. Michael Gstettner, BSc, BSc

Year of birth 1987

- Education**
- Master of Science, Structural Engineering, TU Graz
 - Bachelor of Science, Timber Technology and Timber Construction, FH Salzburg

Professional experience

- Project Assistant, TU Graz (Research & Teaching)

Languages German, English, Italian

Specialist areas Expertise in solid timber construction, research and practice, musician

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