



THEURL
AUSTRIAN PREMIUM TIMBER®

**HANDBOOK
GLUED LAMINATED TIMBER**



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All information about the product glued laminated timber is correct as of July 2023.

Subject to alterations and typesetting and printing errors.



5 POWERFUL REASONS TO CHOOSE THEURL

01 THEURL connects elements, ideas and people

You can build on our products. The diversity, beauty and elegance of our timber products surprise us every day anew. Together, glued laminated timber, CLTPLUS, planned products, sawn timber and the joinery service centre form an unbeatable team.

02 For THEURL means sustainability more

We endeavour to keep transport routes short, starting with sourcing logs from local forests, supplying our own sawn timber for the modern glulam plant to the brand new CLT plant with our CLTPLUS product.

03 We like to take things personally

Anyone who works with us immediately appreciates the THEURL one-contact philosophy.

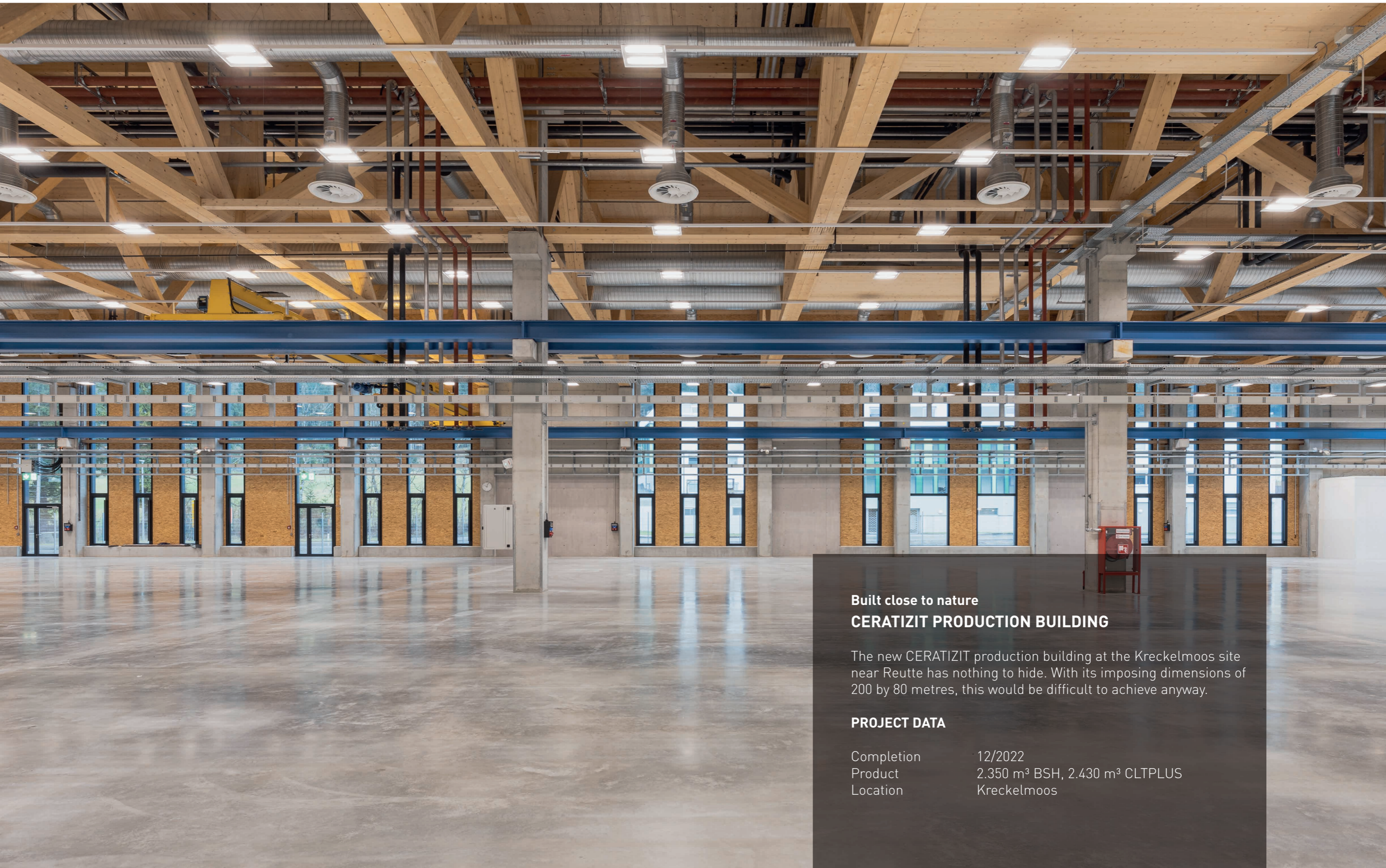
04 Modern software solutions exclusively for THEURL customers

The cloud-based customer platform „TIM“ Theurl Information Manager offers countless advantages in project handling for customer, sales and for the technical team.

05 Translation errors excluded

We can do that. Supported by all common CAD programs such as SEMA, Dietrich`s, cadwork and hsbcad, we can implement exactly what our partners expect from us.

PRODUCT



Built close to nature
CERATIZIT PRODUCTION BUILDING

The new CERATIZIT production building at the Kreckelmoos site near Reutte has nothing to hide. With its imposing dimensions of 200 by 80 metres, this would be difficult to achieve anyway.

PROJECT DATA

Completion	12/2022
Product	2.350 m ³ BSH, 2.430 m ³ CLTPLUS
Location	Kreckelmoos



GLUED LAMINATED TIMBER

The challenging living conditions in the mountains strengthen the resilience of the spruces. Spruce wood is therefore the perfect material for our glued laminated timber production.



Learn more about BSH.



THEURL inside coding

Each timber layer receives an individual code which is invisible from the outside. This makes the origin of each component traceable for life.

PRESSING POWER

For an optimal and even pressing result, our glued laminated products are manufactured by using the latest pressing technology with a pressing power of 1 N/mm².

LAMINATION

Melamine resin adhesive is transparent and can be used in accordance with EN 301 for the bonding of loadbearing and non-loadbearing glulam components.

„h“ or „c“?

The laminations within a cross-section fall into different sorting classes. This allows production of strength classes for a homogeneous or combined cross-sectional structure.

GL 24h
GL 28h/c, GL 30c, GL 32h/c
GL 20h (60er)

Homogeneous (h)

All single laminations within a cross-section are assigned to the same sorting class. Theurl only produces GL 24h or higher strength classes.

Combined (c)

The inner and outer laminations within a cross-section are assigned to different sorting classes.

TECHNICAL SPECIFICATIONS

Product name	Glued laminated timber
Other product names	BSH
Application	Structural timber construction solution with straight components for ceiling, roof, support and column
Durability	Use class 1 and 2 according to EN 1995-1-1
Types of wood	Spruce
Thickness of lamellas	40 mm
Strength class	GL 24h GL 28h/c, GL 30c, GL 32h/c GL 20h
Gluing	MUF melamine resin urea-based glue, weather-proof, transparent glued joints
Bonding pressure	0,8 - 1,0 N/mm ²
Wood moisture	11% +/- 2,5%
Supply range	Width 80 - 280 mm Height 120 - 1280 mm Length 6 - 18 m
Surface	Visual or industrial quality, planed on 4 sides, chamfered edges
Weight GL 24h	420 kg/m ³ , according to EN 14080:2013, Tabelle 11
Mechanical properties	Strength classes c/h, see table
Fire behaviour	D-s2, d0, according to EN 14080:2013, Tabelle 11
Formaldehyde emission class	E1
Certification	EN 14080:2013

CROSS SECTION

Cross section GL 24h, GL 28h/c, GL 30c, GL 32h/c

Width (mm)	Height	Quality (mm) View (AV) / Industry (I)
80	120 - 1280	AV / I
100	120 - 1280	AV / I
120	120 - 1280	AV / I
140	120 - 1280	AV / I
160	120 - 1280	AV / I
180	120 - 1280	AV / I
200	120 - 1280	AV / I
220	120 - 1280	AV / I
240	120 - 1280	AV / I
260	120 - 1280	AV / I
280	120 - 1280	AV / I

Sort class
Deck layer DL
Middle layer ML

T14 DL	T22 DL	T26 DL
T14 ML	T22 ML	T26 ML
T14 ML	T22 ML	T26 ML
T14 DL	T22 DL	T26 DL

GL 24h GL 28h GL 32h

Structure:
GL 28c: DL=T22, ML varies depending on height
GL 30c: DL=T22; ML varies depending on height
GL 32c: DL=T26; ML varies depending on height

Strength classes GL 28h and GL 32h available on request. Higher strength classes are possible in industrial and visible quality. The proportion of lamellas in a higher grade also depends on the component height.

Cross section GL 20h

Width (mm)	Height (mm)	Quality View (AV) / Industry (I)
60	120 - 480	I

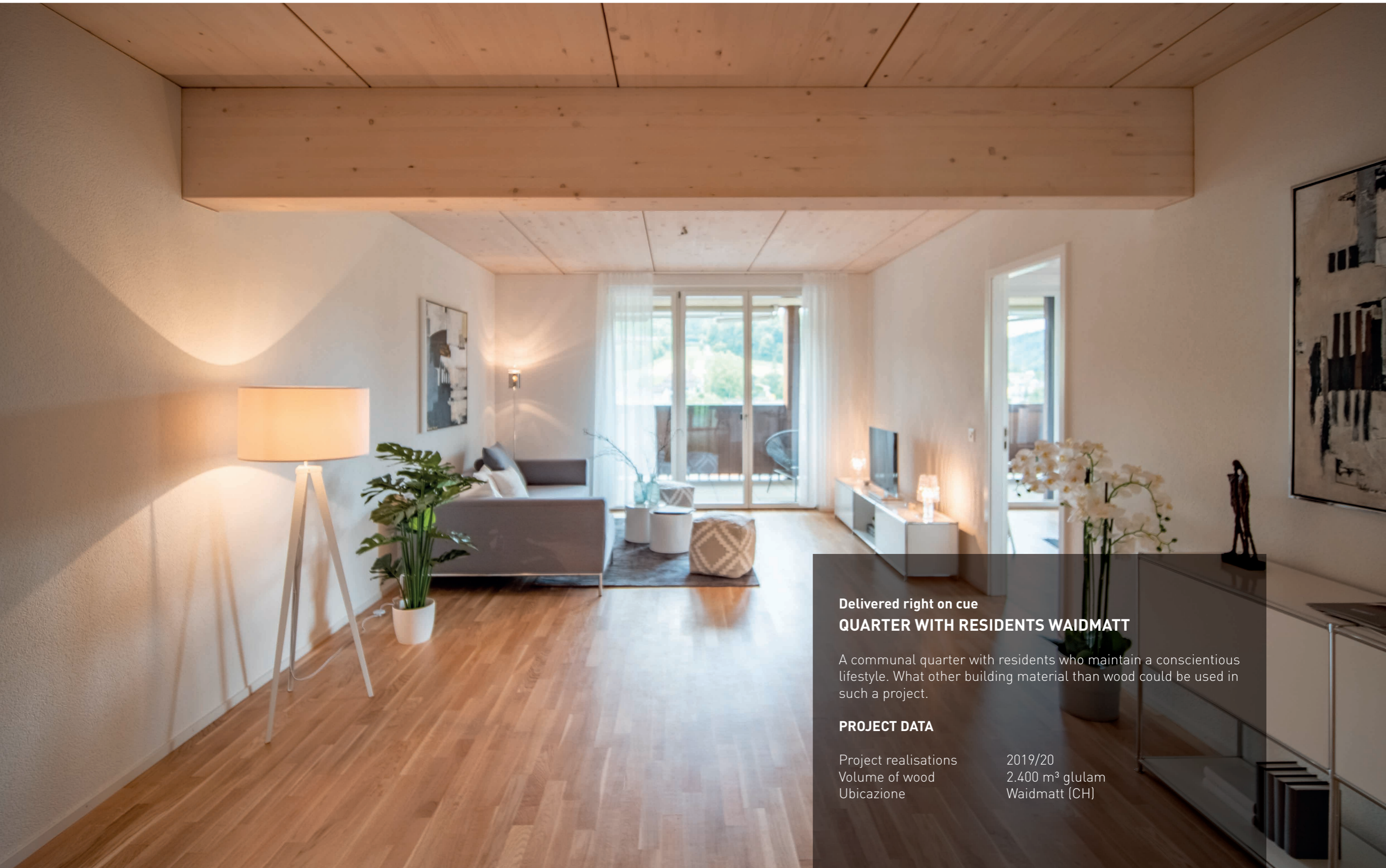
T14 DL
T14 ML
T14 ML
T14 DL

On request 60 mm. Length 12 m and pair production required. Split T14 becomes T10.

GL 20h

MECHANICAL PROPERTIES

Strength classes of glued laminated timber with homogeneous and combined lay-up								
Strength classes in N/mm ²	Symbol	GL 20h	GL 24h	GL 28h	GL 28c	GL 30c	GL 32h	GL 32c
Bending	<i>f_{m,g,k}</i>	20	24	28	30	30	32	32
Tension	<i>f_{t,0,g,k}</i>	16	19,2	22,3	19,5	19,5	25,6	19,5
	<i>f_{t,90,g,k}</i>	0,5						
Compression	<i>f_{c,0,g,k}</i>	20	24	28	24	30	32	24,5
	<i>f_{c,90,g,k}</i>	2,5						
Shear and torsion	<i>f_{v,g,k}</i>	3,5						
Rolling shear	<i>f_{r,g,k}</i>	1,2						
Stiffness characteristics in N/mm ²								
Modulus of elasticity	E0,g,mean	8 400	11 500	12 600	12 500	13 000	14 200	13 500
	E0,g,05	7 000	9 600	10 500	10 400	10 800	11 800	11 200
	E90,g,mean	300						
	E90,g,05	250						
Shear	Gg,mean	650						
	Gg,05	540						
Rolling Shear modulus	Gr,g,mean	65						
	Gr,g,05	54						
Density in kg/m ³								
Characteristic density	Pg,k	340	385	425	390	390	440	400
Mean density	Pg,mean	370	420	460	420	430	490	440



Delivered right on cue
QUARTER WITH RESIDENTS WAIDMATT

A communal quarter with residents who maintain a conscientious lifestyle. What other building material than wood could be used in such a project.

PROJECT DATA

Project realisations	2019/20
Volume of wood	2.400 m ³ glulam
Ubicazione	Waidmatt (CH)

DIMENSIONS CEILING ELEMENTS, NATURAL ELEMENTS AND BLOCK PLANKS

THEURL produces ready-to-fit ceiling elements with various profiles. Dimensional accuracy and perfect surfaces help to reduce construction time and costs.

BLOCK BLANKS

Thickn. 120, 160, 200 mm
Height 220 mm
Length 6-18 m



Natural elements, Typ 1 Single groove

Thickn. 120, 160, 200 mm
Width 140, 160, 180, 200 mm
Length 6-18 m



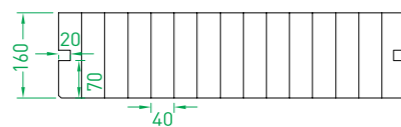
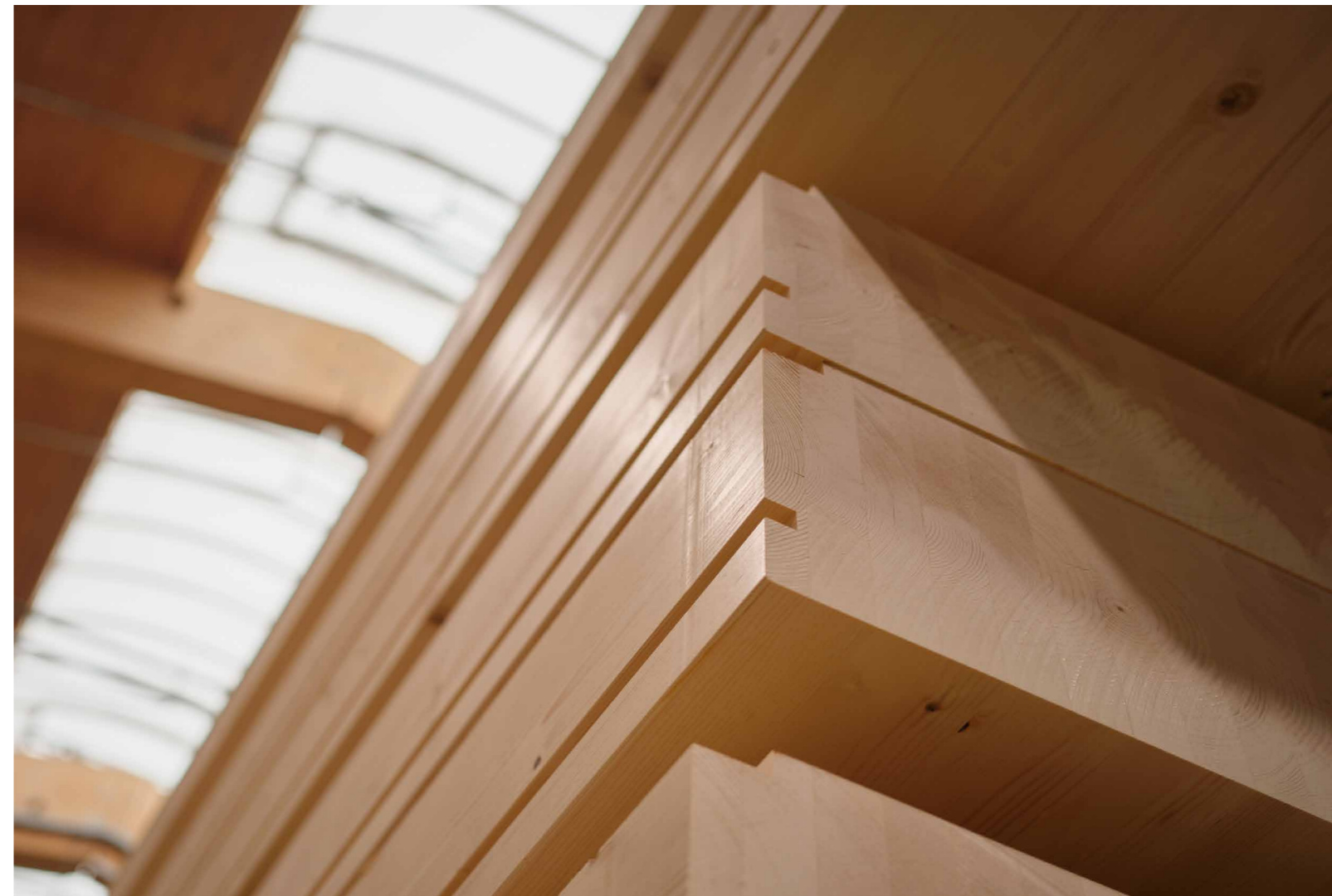
Natural elements, Typ 3 Double tongue and groove

Thickn. 120, 160, 200 mm
Width 140, 160, 180, 200 mm
Length 6-18 m



Ceiling elements

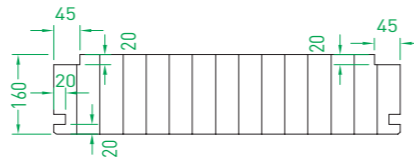
Thickn. 80 - 280 mm
Width 400/600 mm, recommended width
max. width 1200 mm
Intermediate widths are also possible on request
Length 6 - 18 m



Typ 1

Single groove

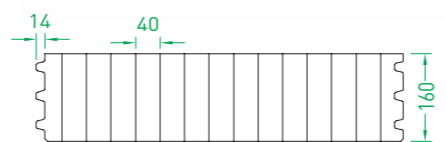
Covered dimensions
(=invoiced dimensions): 600 mm
Groove: 20 mm



Typ 2

Single groove and rabet joint

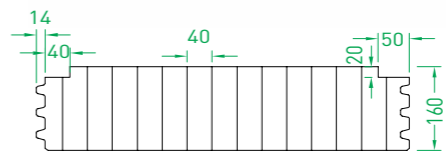
Covered dimensions
(=invoiced dimensions): 600 mm
Groove: 20 mm
Rabet above: 20 x 45 mm



Typ 3

Double tongue and groove

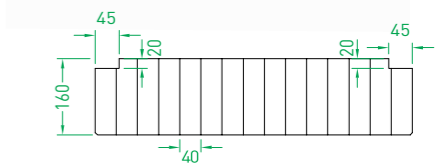
Covered dimensions 580 mm
Invoiced dimensions: 600 mm
Groove: 14 mm



Typ 4

Double tongue and groove with rabet joint

Covered dimensions: 580 mm
Invoiced dimensions: 600 mm
Groove: 14 mm
Rabet above:
20 x 40 mm and 20 x 50 mm



Typ 5

With rabet joint

Covered dimensions
(=invoiced dimensions): 600 mm
Rabet above: 20 x 45 mm
(thickness 100 -240 mm)
Rabet above: 20 x 20 mm
(thickness 80 mm)

QUALITY CHARACTERISTICS TOP LAYER



Characteristics	Industrial quality (II)	Visual quality (AV)
Application area	Purely structural glulam components are used in industrial of visible applications.	The glulam components are suitable for visible, residential applications.
Wood moisture	11 % (+/-2,5%)	11 % (+/-2,5%)
Bluing, discolouration	without restriction	up to 10% of the visible surface of the entire component.
Resin galls	permitted	up to 5 mm wide resin gall permitted
Rough edge	max. 2 x 50 cm	not permitted
Pith	permitted	permitted
Insect damage	Insect burrows up to an average of 2 mm permitted	not permitted
Branches grown firmly together	permitted	permitted
Branches fallen out	permitted	permitted ≤ 20 mm, from > 20 mm to be replaced at the factory
Post-processing using filling compound, knot plug or insert	not required	permitted
Crack formation	without restriction	up to 4 mm permitted
Mould infestation	not permitted	not permitted
Surface	planed and chamfered, planing strokes up to 1 mm permissible	planed and chamfered, planing strokes up to 1 mm permitted

Glulam is permitted for use classes 1 and 2 according to the specified standard EN 1995-1-1.

Use class 1: indoors (in heated buildings)

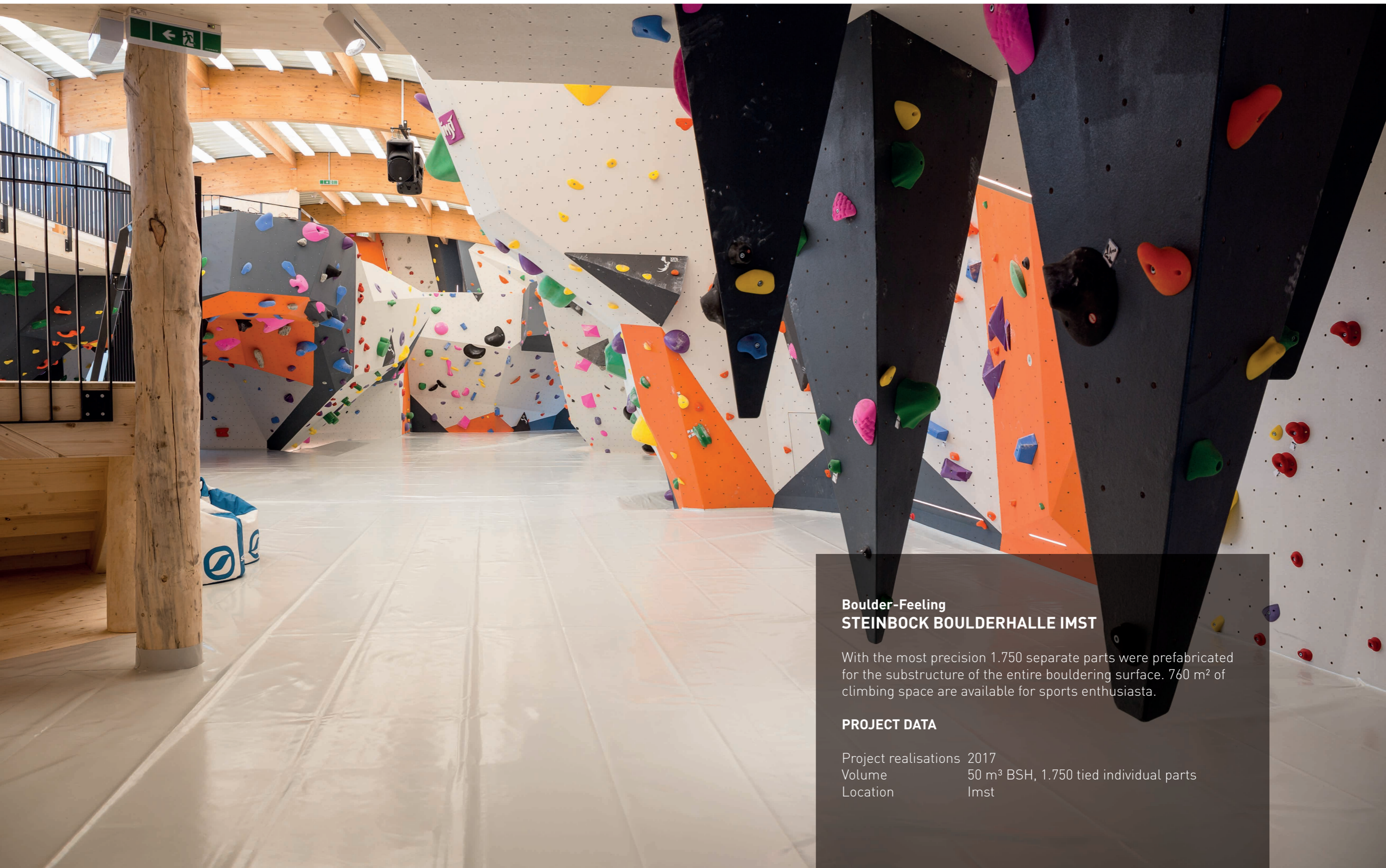
Use class 2: covered, open structures

Use class 3: structures exposed to weathering

On request larch glulam possible!



JOINERY SERVICE



**Boulder-Feeling
STEINBOCK BOULDERHALLE IMST**

With the most precision 1.750 separate parts were prefabricated for the substructure of the entire bouldering surface. 760 m² of climbing space are available for sports enthusiasts.

PROJECT DATA

Project realisations 2017
Volume 50 m³ BSH, 1.750 tied individual parts
Location Imst

FRAMING SERVICE CENTRE

Thanks to our computer-controlled production, THEURL meets the highest demands of precision and quality in modern timber construction. The Hundegger K2i 1250 ROBOT K2i 1250 5-axes and K2 625 5-axes play important roles.

Facts about the framing service centre

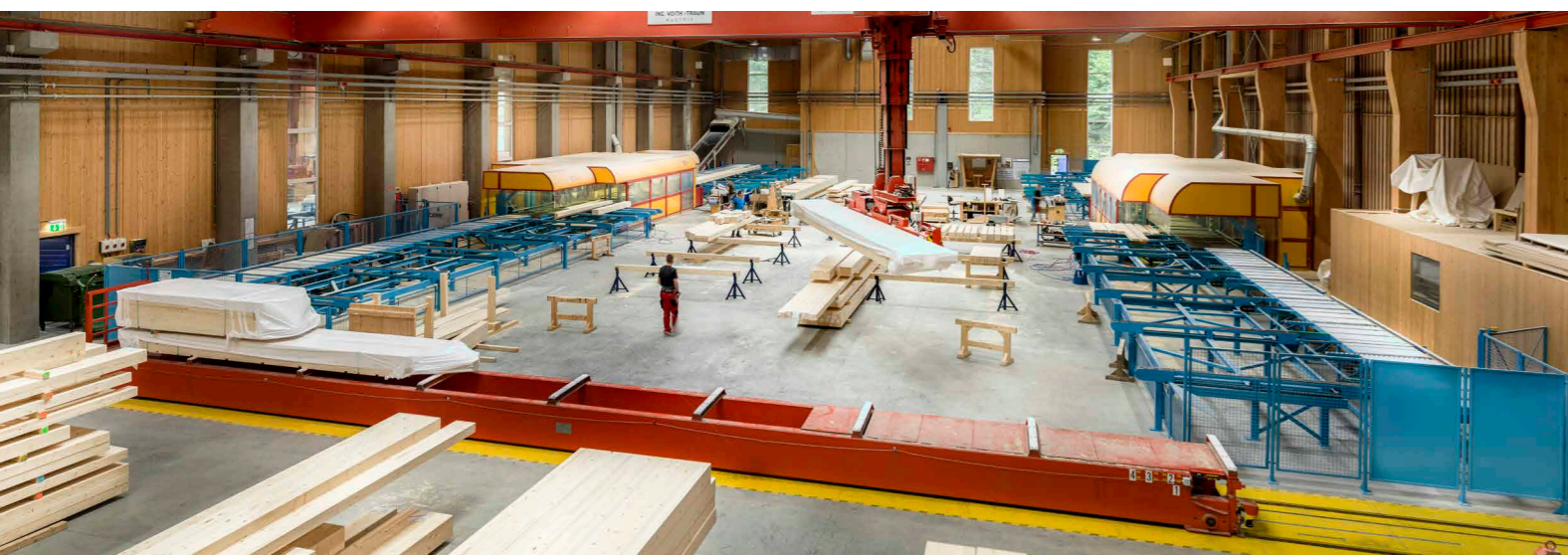
Glulam max. length 18 m
max. width 280 mm
max. height 1250 mm

The dimensions refer to the component lying flat on the system.
Tolerances DIN 18203-3:2008 08 Tolerances in Building construction part 3: components made of wood and wood-based materials

Tool

CNC machining of the glulam components vertically or horizontally is performed with different tools.

	Diameter (mm)	Width (mm)	Length (mm)
Roller cutters	360	40, 80	
Finger cutters	16, 20, 40		
Dovetail cutters	60 front, 45 rear (< non possibile)		28
Saw blades	800	6	
Drill	6 - 30 (2 mm steps)		
Disc cutters		16 - 28	
Slotting device		8	120
Horizontal slot blade	900	8	



SERVICE PERFORMANCE

To avoid sources of error in the process, it's necessary to speak the language of your partners - and above all understand it. Supported by all common CAD programs such as SEMA, Dietrich's, cadwork and hsbcad, we can implement exactly what our partners expect from us.



JOINERY SERVICE

- + editing on both sides
- + outlets and openings for beams, purlins and rafters
- + machining at all angles and inclinations
- + horizontal and vertical processing
- + milling, drilling, slotting

RECOMMENDATIONS FOR STORING AND ASSEMBLING GLULAM COMPONENTS

On-site storage

- use wooden blocks
- when components are stacked horizontally, arrange layers and intermediate timbers on top of one another
- Store in a safe place
- Remove the wrapping packing film to avoid condensation
- Protect components from rain, water splashes and rising moisture by providing adequate ground clearance and covering tarpaulins
- When storing for a long time, arrange additional wooden supports to avoid creep deformation

Assembly of the components

- Assembly must be performed according to the assembly instructions
- Components are to be protected against rainwater and damp
- Components must be covered until the final weather protection has been completed
- Avoid soiling and, if necessary, protect components with tarpaulins or similar

Protection after installation

- Covers help to prevent visible surface from becoming dirty
- Ensure adequate ventilation to prevent discolouration due to moisture in the building condition (e.g. through screed or plastering work)

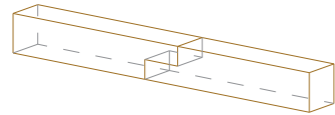
PROCESSING FRAMING DETAIL

A variety of processing options are available in our framing service centre. The CNC machining operations shown below are among our common solutions. In our framing service centre, we produce wooden construction kits for roof trusses, car ports, garages, terrace roofs, canopies, extensions, halls and commercial buildings and much more.

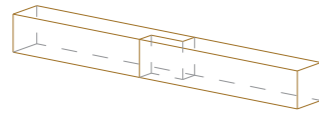
A custom design must always be requested in advance and the actual workload is determined according to the processing time. This ensures fair and accurate billing of expenses.

LONGITUDINAL JOINTS

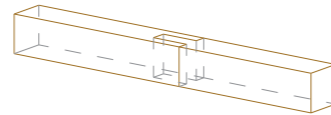
Straight lap



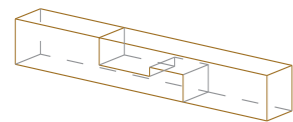
Standing lap



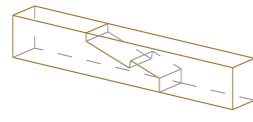
Mortise & tenon



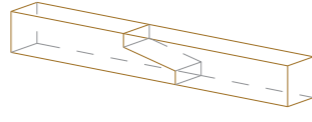
Straight dovetail lap



Scarf dovetail lap

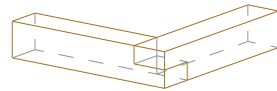


Gerber joint

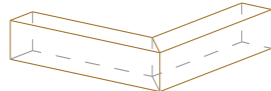


CORNER JOINTS

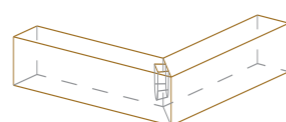
Half lap smooth Mitre joint



Mitre with dovetail

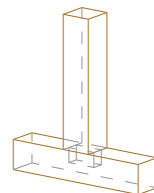


Dovetail bevel

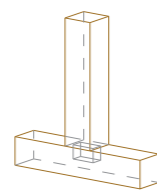


CROSS JOINTS

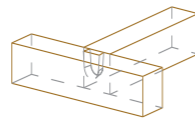
2-shoulder mortise & tenon



4-shoulder mortise & tenon

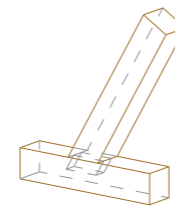


Dovetail mortise & tenon

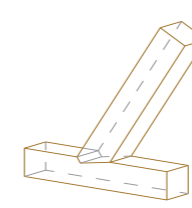


BEVEL JOINTS

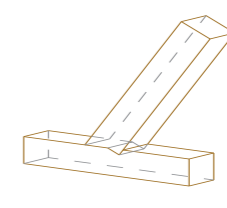
Oblique mortise & tenon



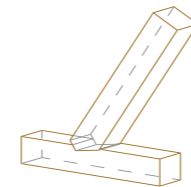
Single step



Heel step

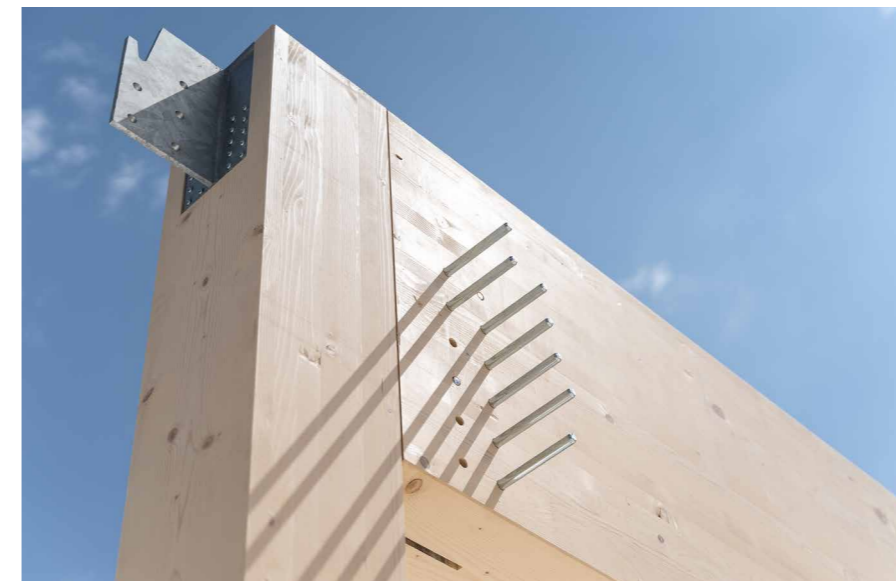


Double step



SURFACE TREATMENTS

- + Surface finishing roughing and brushing
- + Pre-assembly of connectors

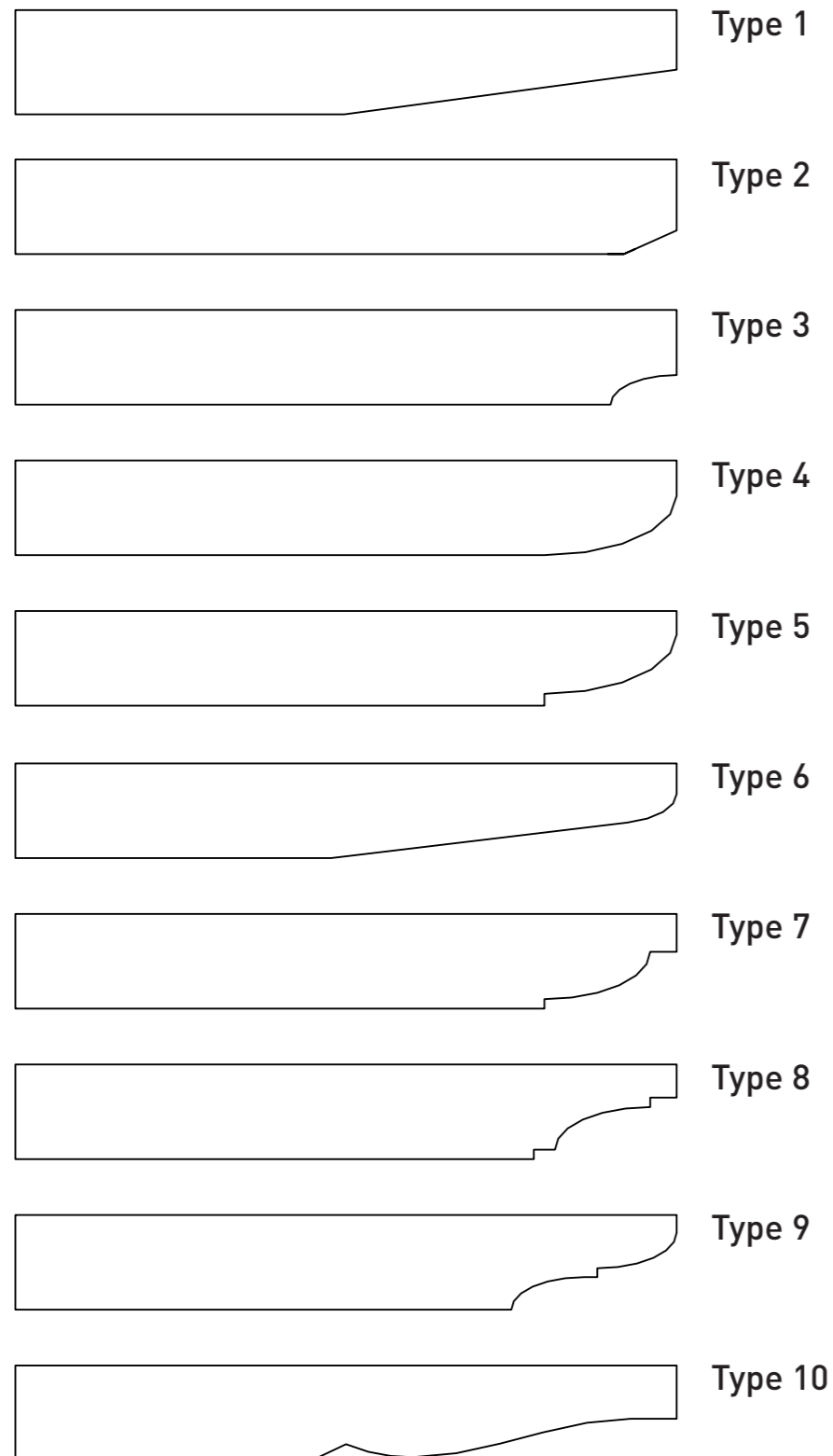


PROFILE HEADS FOR RAFTERS AND PURLINS

Do you want to create a profile at the end of the rafter or purlin head over an entire roof x-times? THEURL offers over 10 different profile heads. It should be noted that lead time and cost varies.

Time and cost

Type 1-4 standard, Type 5-8 medium, Type 9-10 high



SERVICE

DIGITAL SERVICES

How can fine tuning between the customer, timber construction technology, production and logistics be optimised? Where can we find unused potential in data exchange and the planning process? And how can you actually determine which solid timber elements are needed and when? The future belongs to timber construction, but the innovative digital solutions from THEURL already offer the answer to all these pressing questions.

01 FOUR CAD PROGRAMMES

THEURL is the only industrial partner that can create joinery plans for CLTPLUS and glued laminated timber in all four common CAD programmes such as SEMA, Dietrich`s, cadwork and hsbcad. Whether it`s private family home or a major project - projects of all categories are processed on a digital twin, which contains detailed information on each individual component.

02 TIM – Theurl Information Manager

TIM allows customers to not only keep an eye on their project status at all times, the application also enables secure and uniform data exchange of all plans and documents. Extensive and large amounts of data from a wide variety of sources can therefore be exchanged. As the interface between THEURL and its customers, TIM provides the perfect service platform.

Discover huge advantages
and save time with Tim.
Register now!
tim.theurl-holz.at

TIM
THEURL INFORMATION
MANAGER



BILLING

Billing is based on actual quantities, taking into account the standard cross-section and minimum length.

Standard cross-section and length

Billing width	80 - 280 mm (billing in 2 cm increments)
Billing height	120 - 1280 mm (billing in 4 cm increments)
Billing length	min. 6 m - max. 18 m

Custom cross-sections

These are produced from standard cross-sections and planned back to the desired size in production.

Example

Desired dimension	130 x 270 mm
(Billing and production dimensions)	140 x 280 mm

Multiple lengths

We optimise order-related desired lengths to a multiple length of 13,5 m, where by a kerf of 1 cm is taken into account for each individual length. A minimum length of 6 m applies. If a length < 6 m is desired, this must be cut separately and is subject to additional costs.

Billing of framing

Depends on the complexity of the respective project and therefore the processing time actually required (machine hour).

COMPONENT LABEL

Markings on the glulam component are based on the declaration of performance with reference to the product standard EN 14080:2013 and is affixed on the front with a label.

CE marking according to 0672-CPR-0348

The CE marking contains the following information:

- Name of the manufacturer
- Number of the notified body
- Date of initial inspection
- Number of the product standard
- Use of the wood type
- Multiple lengths



TRANSPORT CONDITIONS

The following conditions apply:

1. If a construction site can only be reached with a special trailer, this must always be communicated in good time. Furthermore, the customer must always provide details about access and construction site conditions, i.e. possible road blocks to the construction site, driveway, crane etc.
2. A maximum of 2 hours standing time is agreed for unloading. Additional costs resulting from standing, reloading or handling times will be charged to the customer according to the freight forwarder`s price list. A delivery can be postponed up to 12 working days before the shipping date stated in the order at no additional cost for the customer. In the case of a postponement of <12 days, the costs incurred will be charged. ATTENTION! The shipping date can be postponed by a maximum of 10 working days. Otherwise storage costs will be charged.
3. According to the highway regulations (STVO), a maximum of 50 m³ can be transported per truck. The total weight must not exceed 40 t.
4. We are entitled to postpone delivery accordingly, in the even of unforeseen events that are beyond the control of Brüder Theurl GmbH, even if these only have an indirect influence on the transaction.
5. Unloading options for individual package up to 4.0 t are required; smaller packages must be agreed separately in writing.

INFORMATION ON LOADING

- The loading of the package is in accordance with the legal regulations for securing the load. Therefore, changes to the loading sequence cannot be ruled out
- Package size: 0,40 x 1,20 m; glulam package are packed within a UV film
- Mixed loads are possible with sawn timber and planed goods
- Loading is always optimized for transport
- Each vehicle must be equipped with anti-slip mats, edge protectors and tensioning straps
- Inlays with 10 x 10 cm incl. an anti-slip mat are used. Additional required inlay wood will be provided for a fee.

INFORMATION SHEET FOR THOSE PERFORMING COLLECTION THEMSELVES

Lost number

The lost number that was issued to the customer in advance must be on hand.

Collection date

The collection date agreed with the customer must be adhered to. In case of delays, waiting times may be extended.

Transfer of risk

Loading and packaging occur at the risk and expense of the buyer!

In addition, the general transport and loading conditions of Brüder Theurl GmbH apply.

PREDETERMINED DIAGRAMS

Basis: Eurocode EN 1995-1 / B 1995-1-1

Application notes

The general pre-dimensioning diagrams and the pre-dimensioning tables of selected cross-sections are used for the rapid (pre-)dimensioning of glulam beams.

The basis for the design aids are the latest calculation standards for timber construction (Eurocode EN 1995 / national Austrian Appendix B 1995).

The documents were prepared for the standard material grades - GL 24h/c, GL 28h/c, GL 30h/c, GL 32h/c

A distinction is also made between the standard material grades - GL 24h/c, GL 28h/c, GL 30h/c, GL 32h/c

- Use class 1:** Indoors (in heated buildings)
- Use class 2:** Covered, open structures
- Use class 3:** Structures exposed to weathering

Applying these charts and tables cannot replace a static calculation!

Example of use

Given: permanent load $g = 1,5 \text{ KN/m}^2$
 Useful load $p = 2,0 \text{ KN/m}^2$

Laminated beams: material GL 24h/c
 width 12 cm
 Wingspan $L = 5,0 \text{ m}$ (single beam)
 Beam distance $e = 0,8 \text{ m}$ Usage class 1

- Desired:
- a) Minimum beam height without deformation restriction $q = (1,5 + 2) \cdot 0,8 = 2,8 \text{ KN/m}$
 $q/b = 2,8 / 0,12 = 23,3 \text{ KN/m}^2$... Read input parameters for diagram: $h/L = 0,045$
 Required beam height: $h = 0,045 \cdot 5 \text{ m} = 0,225 \text{ m} = 22,5 \text{ cm}$
 - b) Beam height for long-term deformation
 $L/500 \text{ L} = 5,0 \text{ m} : L/500 = 1,0 \text{ cm}$
 $q/b = 2,8 / 0,12 = 23,3 \text{ KN/m}^2$... Read the input parameter for the diagram: $h/L = 0,0625$
 Required beam height: $h = 0,0625 \cdot 5 \text{ m} = 0,31 \text{ m} = 31,0 \text{ cm}$
 - c) Beam height for long-term deformation
 $L/500 \text{ L} = 5,0 \text{ m} : L/500 = 1,0 \text{ cm}$
 $q/b = 2,8 / 0,12 = 23,3 \text{ KN/m}^2$... Read the input parameter for the diagram: $h/L = 0,054$
 Required beam height: $h = 0,054 \cdot 5 \text{ m} = 0,27 \text{ m} = 27,0 \text{ cm}$

You can also choose us as a manufacturer in WALLNER MILD or Dietrich`s. Information on various construction details can be found at www.dataholz.eu.

More information about glulam assessment remedy.



More information about pre-dimensioning

PREDETERMINED DIAGRAMS

Basis: Eurocode EN 1995-1 / B 1995-1-1

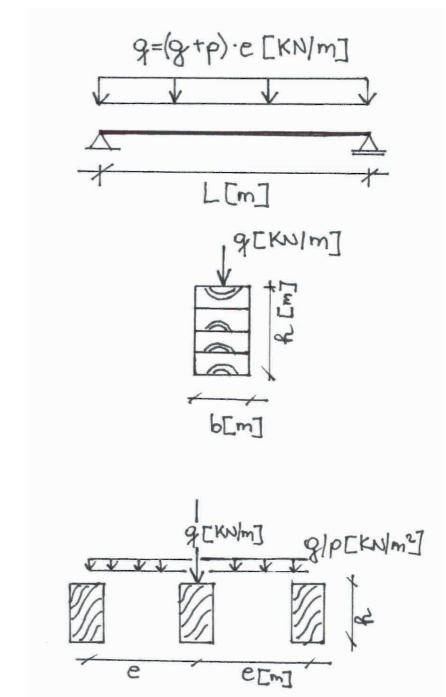
Glulam beams - design tool (preliminary design)

Selected cross-sections

Design tables „permissible q“ for pre-dimensioning (beam supported laterally) single-span beams, permissible (characteristic) line load q [KN/m]

Material quality: GL 24h Usage class 1

		Stützweite L [m]							
B [mm]	H [mm]	Durchbiegung	3,0	3,5	4,0	4,5	5,0	5,5	6,0
100	160	*	3,2	2,4	1,8	1,4	1,2	1,0	0,8
		L/300 kurz	3,2	2,4	1,6	1,1	0,8	0,6	0,5
		L/300 lang	2,3	1,5	1,0	0,7	0,5	0,4	0,3
		L/500 kurz	2,3	1,4	1,0	0,7	0,5	0,4	0,3
		L/500 lang	1,4	0,9	0,6	0,4	0,3	0,2	0,2
120	160	*	3,9	2,9	2,2	1,7	1,4	1,2	1,0
		L/300 kurz	3,9	2,8	1,9	1,3	1,0	0,7	0,6
		L/300 lang	2,8	1,8	1,2	0,8	0,6	0,5	0,4
		L/500 kurz	2,7	1,7	1,1	0,8	0,6	0,4	0,3
		L/500 lang	1,7	1,1	0,7	0,5	0,4	0,3	0,2
100	200	*	5,1	3,7	2,8	2,2	1,8	1,5	1,3
		L/300 kurz	5,1	3,7	2,8	2,2	1,6	1,2	0,9
		L/300 lang	4,6	2,9	1,9	1,4	1,0	0,7	0,6
		L/500 kurz	4,4	2,8	1,9	1,3	1,0	0,7	0,5
		L/500 lang	2,7	1,7	1,2	0,8	0,6	0,4	0,3
120	200	*	6,1	4,5	3,4	2,7	2,2	1,8	1,5
		L/300 kurz	6,1	4,5	3,4	2,6	1,9	1,4	1,1
		L/300 lang	5,5	3,5	2,3	1,6	1,2	0,9	0,7
		L/500 kurz	5,3	3,3	2,2	1,6	1,1	0,9	0,7
		L/500 lang	3,3	2,1	1,4	1,0	0,7	0,5	0,4
140	200	*	7,1	5,2	4,0	3,1	2,5	2,1	1,8
		L/300 kurz	7,1	5,2	4,0	3,0	2,2	1,7	1,3
		L/300 lang	6,4	4,0	2,7	1,9	1,4	1,0	0,8
		L/500 kurz	6,2	3,9	2,6	1,8	1,3	1,0	0,8
		L/500 lang	3,8	2,4	1,6	1,1	0,8	0,6	0,5
160	200	*	8,1	5,9	4,6	3,6	2,9	2,4	2,0
		L/300 kurz	8,1	5,9	4,6	3,5	2,5	1,9	1,5
		L/300 lang	7,3	4,6	3,1	2,2	1,6	1,2	0,9
		L/500 kurz	7,0	4,4	3,0	2,1	1,5	1,1	0,9
		L/500 lang	4,4	2,8	1,9	1,3	1,0	0,7	0,5
120	240	*	8,7	6,4	4,9	3,9	3,1	2,6	2,2
		L/300 kurz	8,7	6,4	4,9	3,9	3,1	2,5	1,9
		L/300 lang	8,7	6,0	4,0	2,8	2,1	1,5	1,2
		L/500 kurz	8,7	5,7	3,8	2,7	2,0	1,5	1,1
		L/500 lang	5,7	3,6	2,4	1,7	1,2	0,9	0,7
140	240	*	10,2	7,5	5,7	4,5	3,7	3,0	2,5
		L/300 kurz	10,2	7,5	5,7	4,6	3,6	2,9	2,2
		L/300 lang	10,2	7,0	4,7	3,3	2,4	1,8	1,4
		L/500 kurz	10,2	6,7	4,5	3,2	2,3	1,7	1,3
		L/500 lang	6,7	4,2	2,8	2,0	1,4	1,1	0,8
160	240	*	11,7	8,6	6,6	5,2	4,2	3,5	2,9
		L/300 kurz	11,7	8,6	6,6	5,3	4,2	3,4	2,6
		L/300 lang	11,6	8,0	5,3	3,8	2,7	2,1	1,6
		L/500 kurz	11,6	7,7	5,1	3,6	2,6	2,0	1,5
		L/500 lang	7,6	4,8	3,2	2,3	1,6	1,2	1,0



Legend:
 *) ... without deformation restriction
 short ... short-term deformation
 long ... long-term deformation
 $q=g+p$ [KN/m] ... characteristic total load,
 without safety coefficients

CERTIFICATION

Since 8 August 2015, glulam production has been subject to the specifications of EN 14080:2013. Markings on the components or accompanying documents must also comply with these specifications. With the CE mark, THEURL fulfils all requirements for the construction product. All glulam certifications are available to download from our website www.theurl-holz.at/service/download.



EXCERPTS FROM THE DECLARATION OF PERFORMANCE

1. Unique identification code of the product type:	Glulam from spruce without protective agent treatment	
2. Type, batch or serial number or other means of identification of the construction product in accordance with Article 11(4) Construction Products Regulation (CPR):	The date of production can be taken from the component marking	
3. Intended use of the construction product according to harmonised technical specification:	Buildings and bridges	
4. Name, registered trade name or trademark and address of manufacturer pursuant to Article 11(5) CPR:	Theurl Holzindustrie GmbH Thal-Wilfern 40, 9911 Assling Tel. +43 4855 8411 office@theurl-holz.at	
5. Name and address of the authorised representative for the tasks under Article 12(2) CPR:	No authorised representative	
6. System for assessment and verification of constancy of performance according to Annex V of the CPR:	System 1	
7. If the construction product is covered by a harmonised standard:	The notified body Materialprüfungsanstalt Universität Stuttgart - No. 0672 has determined the product type with regard to adhesive strength and reaction to fire on the basis of an initial test, the initial inspection of the factory and the factory production control as well as the continuous monitoring, assessment and recognition of the factory production control and has issued the certificate of constancy of performance No. 0672-CPR-0348 .	
8. If the construction product is regulated by a European Technical Assessment:	Not applicable	
9. Declared performance:		
Key characteristics	Performance	Harmonised technical specification
Mechanical characteristics: Young's modulus Flexural strength Compression strength Tensile strength Shear strength	Mechanical characteristics of strength classes GL 24h and GL 24c, GL 28h and GL 28c, GL 30h and GL 30c and GL 32h and GL 32c. The allocation of the supplied components to the individual strength classes can be found in the accompanying documents.	EN 14080:2013
Geometric data	Widths from 80-280 mm Heights from 120 -1280 mm Lengths up to 18 m Dimensional deviations length, width and height max. 2 mm The respective product dimensions can be found in the accompanying documents.	
Adhesive strength as		
Flexural strength of finger joints	According to the specifications of EN 14080, Tables 2 and 3	
Bonding joint integrity of the surface bonding	Delamination test according to EN 14080, Annex C, Method B	
Durability of adhesive strength as		
Wood species,	Spruce (Picea Abies)	
Adhesive	Adhesive for finger joints and surface bonding: MUF EN301-I-90-GP-0,6-M Kauramin glue 690 liquid, Kauramin hardener 1690 liquid	
Durability against biological infestation as	Natural durability class against wood destroying fungi EN 350 - 2: 4	
Fire resistance as		



Would you like to learn more about our glulam product?



Subject to alterations and typesetting and printing errors.

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