



ÄSTHETISCH.
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TECHNICAL
PRODUCT
DESCRIPTION
LOC COMPONENT

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OUR MISSION

Sleek timber construction systems –
knotless and climate-neutral

We want to set an example and make construction more sustainable. We use the most sustainable raw material – timber! We represent excellent quality, technical innovation, and systematic planning.

We are part of something big.



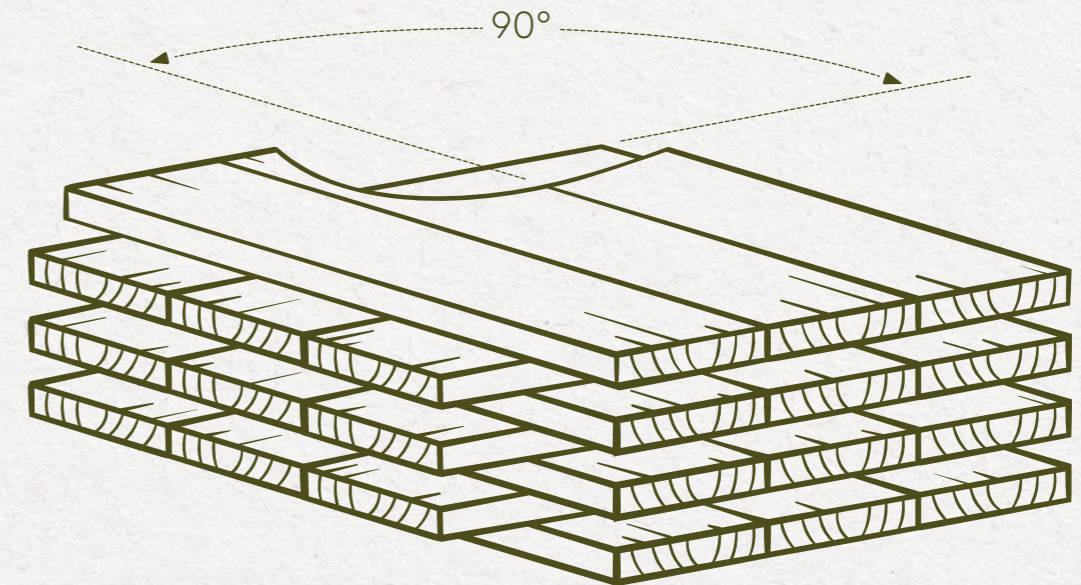
Josef Lauß,
Rudolf Ortner,
Jan Walter Cappelen
(from left to right)

LOC COMPONENT PRODUCT STRUCTURE

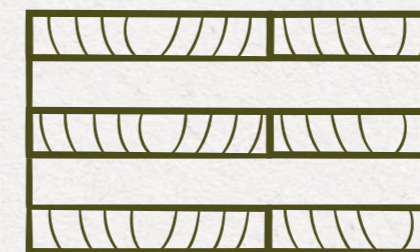
Crosswise layering and gluing of at least three thick layers of panels creates a large-format, strong, and versatile sheet material. This is the base for walls and ceilings in modern solid timber construction – tested and certified.

Our components are the logical next step towards a high level of prefabrication, leading to increased efficiency. This way, we create ready-to-assemble components for the construction kit of the future.

Built with 3/5/7/9 layers, maximum format 16 m x 3.5 m x 36 cm



Basic structure
of **3-layer-cross-laminated timber**



Basic structure
of **5-layer-cross-laminated timber**

DESIGN

- Unique in its simple and knotless finish
- Our extensive components guarantee the greatest amount of creative freedom
- The application possibilities are almost endless: exterior and interior walls, roofs, ceilings, and many more
- Compatible with all building materials
- Simple planning



TECHNOLOGY

- Dimensional stability and enormous strength enable slim designs
- Ideal heat- and soundproofing
- Safe and predictable in case of fire



COSTS

- Short construction times due to the highest degree of prefabrication
- Simple and fast planning
- Dry building materials enable swift installation and buildings are move-in-ready quickly
- Highest precision thanks to CNC



CLIMATE

- Timber – a sustainable and certified building material
- One cubic meter of LOC Component stores around one ton of CO₂
- LOG Components consist exclusively of locally harvested roundwood
- Surfaces that are smooth and warm to the touch
- Comfortable indoor climate thanks to moisture control during the summer and winter months



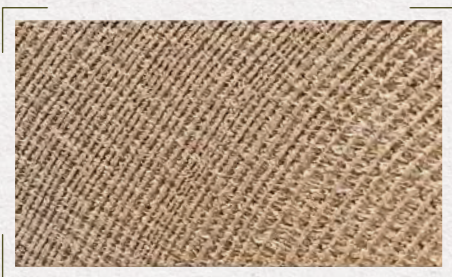
PRODUCT
BENEFITS

LOC SURFACES

LOC Component cross-laminated timber sets a new quality standard and is available in 4 different surface qualities.

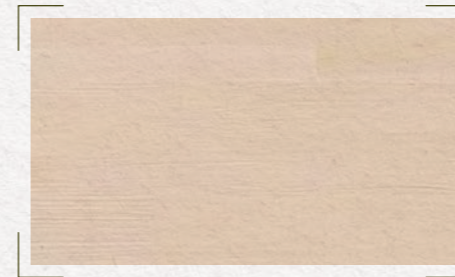
The use of selected raw timber and precise sorting allow us to guarantee consistently high quality at all times. Unwanted areas in the raw material are cut out – clean finger-joints without visible profiles are part of the typical appearance of LOC Component.

Timber is a natural material that is made dimensionally stable and easy to use by means of complex technical drying and cross-laminating. However, timber always retains the positive property of having a moisture-regulating effect – it continues to move slightly even after the drying process. Because of these qualities, crack and joint formation cannot be ruled out.



LOC Premium Qualities

For our premium qualities LOC Supreme and LOC Domestic Visible we predominantly use rift wood. The vertical annual rings in the lamellae create a uniquely sleek surface structure. This also minimizes the natural swelling and shrinking behavior.



LOC Supreme

The LOC Supreme sets a new standard in CLT production with its clean and knotless surface. Timber is carefully selected, and flaws are removed in the cutting process. After extensive sorting, parts matching in color and structure are put together – perfection and knotless surfaces guaranteed.



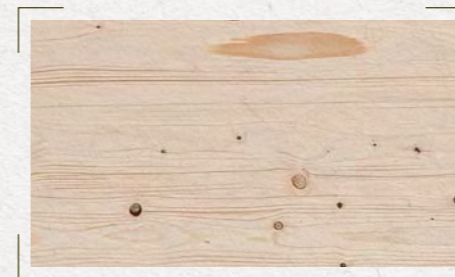
LOC Domestic Visible

The LOC Domestic Visible with a classic look and clean knot pattern. First-class timber from Austrian woods – carefully sorted and classified. Within the complex production, we pay special attention to healthy and tightly intergrown knots. It goes without saying that, as with LOC Supreme, consistency in color and structure is one of our core values.



LOC Industrial Visible

The LOC Industrial Visible combines elegance and functionality. With increasing economic requirements and project sizes, it is even more important to us to offer a high and consistent base level of quality. The LOC Industrial Visible has a clean appearance and is a strong competitor in the CLT market.



LOC Non-Visible

A distinguishing characteristic of the LOC Non-Visible is its purely technical use within building structures. Unlike our other panel types, the LOC Non-Visible does not have a specific quality sorting. Therefore, it is the ideal product for subsequent paneling. For the LOC Non-Visible, we pay special attention to economic and constructive aspects.

QUALITY CHARACTERISTICS OF THE VISIBLE SIDE

CHARACTERISTICS	NON -VISIBLE NVQ	INDUSTRIAL VISIBLE IVQ	DOMESTIC VISIBLE DVQ
CLASS OF USE	1 – 2	1 – 2	1 – 2
Wood types	Spruce, fir, or pine	one type of wood in the covering layer	one type of wood in the covering layer
Lamella Width	11.8 cm	11.8 cm	11.8 cm
Bonding (narrow side)	sporadically open joints permissible	sporadically open joints with width of ≤ 2 mm permissible	sporadically open joints with width of ≤ 1 mm permissible
Cracks and joints (at a wood moisture of 11 %)	permissible	sporadically permissible ≤ 2 mm	sporadically permissible ≤ 1 mm
Wood moisture	< 15 %	< 15 %	< 11 %
Surface	max. 10 % of the surface rough*	100 % sanded*	100 % sanded*
Wane	max. 2 × 50 cm	not permissible	not permissible
Knots tightly intergrown	permissible	permissible	permissible
Knots black	permissible	max. 3 cm Ø	max. 1,5 cm Ø
Knots fallen-out	permissible	max. 2 cm Ø	max. 1 cm Ø
Pitch pocket	permissible	permissible	sporadically permissible, max. 5 × 50 mm
Bark pocket	permissible	sporadically permissible	sporadically permissible
Pith	permissible	permissible	sporadically permissible up to a length of 40 cm
Blue stain, Discoloration	permissible	≤ 10 % of the surface	≤ 1 % of the surface
Insect infestation	sporadically permissible	not permissible	not permissible
Quality of the surface treatment	flaws sporadically permissible	flaws sporadically permissible	small flaws sporadically permissible
Surface finish (wood disks, wood fillers, boards)	permissible	permissible	permissible
Flaws on cut edges	permissible	flaws sporadically permissible	small flaws sporadically permissible
Cracking	As with all constructive solid timber products, crack and joint formation as a result of the drying process to the equilibrium moisture content is productspecific and can't be avoided.		

* The sanding direction of C-components is transverse to the fiber.

Timber is a natural product. Slight deviation from the table are possible. Subject to technical changes.

Scope: These surface quality characteristics apply 1) at the time of delivery; 2) only of the top layer; 3) for one-sided visible surfaces; 4) for narrow sides and all surfaces treated by CNC-machines only the criteria of the surface quality characteristics of NVQ apply.

QUALITY CHARACTERISTICS OF THE VISIBLE SIDE

CHARACTERISTICS	SUPREME SPRUCE	SUPREME FIR
CLASS OF USE	1 – 2	1 – 2
Appearance	Spruce almost knotless – finger-jointed from 30 cm	Fir almost knotless – finger-jointed from 30 cm
Wood types	Spruce	Fir
Lamella width	11.8 cm	11.8 cm
Bonding (narrow side)	sporadically open joints up to 1 mm width permissible	sporadically open joints up to 1 mm width permissible
Cracks and joints (at a wood moisture of 11 %)	sporadically permissible ≤ 1 mm	sporadically permissible ≤ 1 mm
Wood moisture	< 11 %	< 11 %
Surface	100 % sanded*	100 % sanded*
Wane	not permissible	not permissible
Knots tightly intergrown	almost knotless, some small knots of max. 5 mm permissible	almost knotless, some small knots of max. 5 mm permissible
Knots black	not permissible	not permissible
Knots fallen-out	not permissible	not permissible
Pitch pocket	sporadically permissible, max. 2 × 30 mm	sporadically permissible, max. 2 × 30 mm
Bark pocket	not permissible	not permissible
Core – Pith – Wet core	not permissible	not permissible
Blue stain, Discoloration	not permissible	not permissible
Insect infestation	not permissible	not permissible
Fiber direction	Rift / Semi rift	Rift / Semi rift
Quality of the surface treatment	small flaws sporadically permissible	small flaws sporadically permissible
Surface finish	permissible	permissible
Flaws on cut edges	small flaws sporadically permissible	small flaws sporadically permissible
Cracking	As with all constructive solid timber products, crack and joint formation as a result of the drying process to the equilibrium moisture content is productspecific and can't be avoided.	

* The sanding direction of C-components is transverse to the fiber.

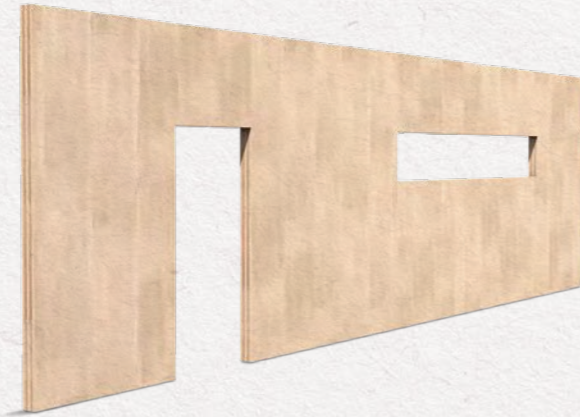
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Scope: These surface quality characteristics apply 1) at the time of delivery; 2) only of the top layer; 3) for one-sided visible surfaces; 4) for narrow sides and all surfaces treated by CNC-machines only the criteria of the surface quality characteristics of NVQ apply.

LOC COMPONENT WALL

Top layer transverse to the load-bearing direction. Top layers in different orientation possible as a special build.

Built with 3/5/7/9 layers special builds on request.



MAXIMUM FORMAT	MINIMUM FORMAT
Length: 16 m	Length: 8 m
Width: 3.5 m	Width: 2.2 m
Thickness: 6 – 36 cm	Thickness: 6 – 36 cm

Cuts and cut-outs are over-measured (e.g. door cut-outs, bevel cut).
No minimum order quantity.

NAME	THICKNESS (mm)	LAYERS	Panel Structure						
			C	L	C	L	C		
LOC 60 Q3s	60	3	20	20	20				
LOC 80 Q3s	80		30	20	30				
LOC 90 Q3s	90		30	30	30				
LOC 100 Q3s	100		30	40	30				
LOC 120 Q3s	120		40	40	40				
LOC 100 Q5s	100	5	20	20	20	20	20		
LOC 120 Q5s	120		30	20	20	20	30		
LOC 140 Q5s	140		40	20	20	20	40		
LOC 150 Q5s	150		30	30	30	30	30		
LOC 160 Q5s	160		40	20	40	20	40		
LOC 180 Q5s	180		40	30	40	30	40		
LOC 200 Q5s	200		40	40	40	40	40		

The fiber direction of the covering layer runs parallel to the panel.

LOC COMPONENT CEILING

Top layer along the load-bearing direction. Top layers in different orientation possible as a special build.

Built with 3/5/7/9 layers special builds on request.



MAXIMUM FORMAT	MINIMUM FORMAT
Length: 16 m	Length: 8 m
Width: 3.5 m	Width: 2.2 m
Thickness: 6 – 36 cm	Thickness: 6 – 36 cm

Cuts and cut-outs are over-measured (e.g. door cut-outs, bevel cut).
No minimum order quantity.

NAME	THICKNESS (mm)	LAYERS	Panel Structure						
			L	C	L	C	L		
LOC 60 L3s	60	3	20	20	20				
LOC 80 L3s	80		30	20	30				
LOC 90 L3s	90		30	30	30				
LOC 100 L3s	100		30	40	30				
LOC 120 L3s	120		40	40	40				
LOC 100 L5s	100	5	20	20	20	20	20		
LOC 120 L5s	120		30	20	20	20	30		
LOC 140 L5s	140		40	20	20	20	40		
LOC 150 L5s	150		30	30	30	30	30		
LOC 160 L5s	160		40	20	40	20	40		
LOC 180 L5s	180		40	30	40	30	40		
LOC 200 L5s	200		40	40	40	40	40		
			L	L	C	L	C	L	L
LOC Element 220 L7*2	220	7	40	40	20	20	20	40	40
LOC Element 240 L7*2	240		40	40	20	40	20	40	40
LOC Element 260 L7*2	260		40	40	30	40	30	40	40
LOC Element 280 L7*2	280		40	40	40	40	40	40	40

The fiber direction of the covering layer runs perpendicular to the panel width.

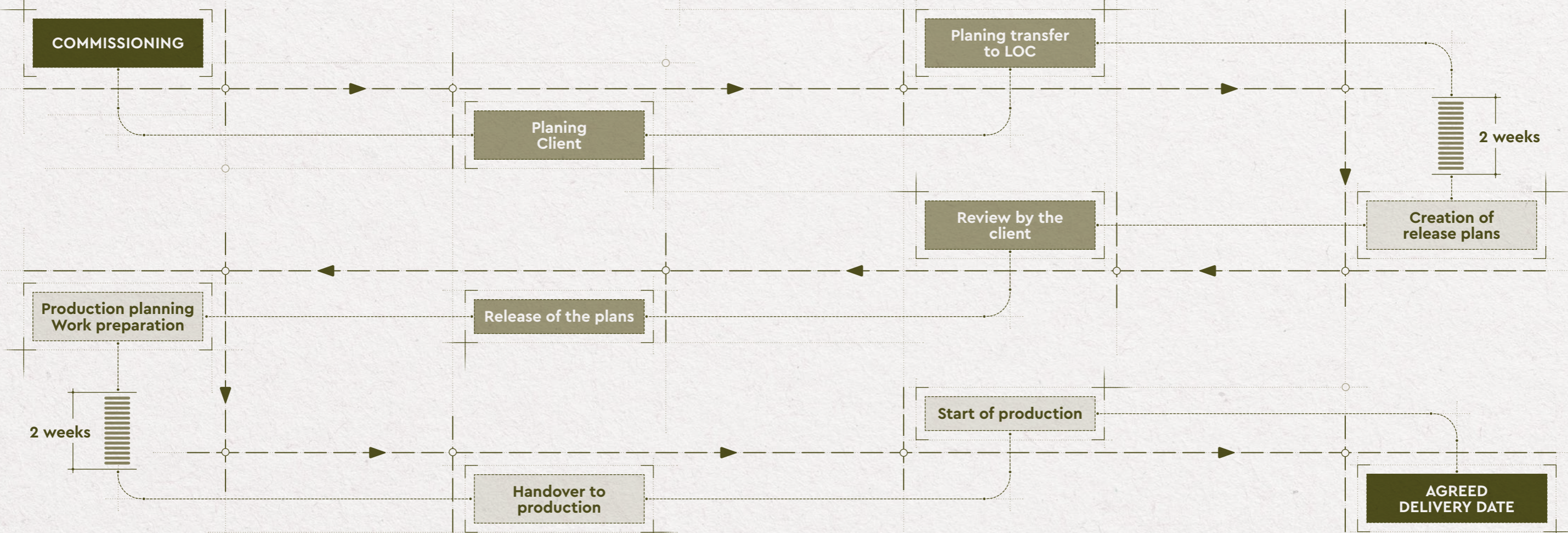
GENERAL INFORMATION

Wood types	Spruce/fir from local forestry
Lamella thickness	20/30/40 mm
Lamella width	118 mm (deviations permissible)
Strength class	C24, maximum 10 % of C16
Wood moisture	< 15 % Non-visible/Industrial Visible, < 11 % Domestic Visible/Supreme, at time of delivery
Gross density	ca. 460 kg/m ³
Durability	Service class 1 (indoors, heated), service class 2 (outdoors, with roof)
Thermal conductivity	$\lambda = 0,12 \text{ W/(m K)}$
Heat storage capacity	$c_p = 1600 \text{ J/(kg K)}$
Vapour resistance	$\mu \text{ dry/wet} = 50/20$
Surface grinding	Each panel is calibrated on both sides, grinding direction of the LOC component WALL is transverse to the fiber, fine grinding on request
Bonding	Surface and flank bonding with melamine resin adhesive, fingerjointing PUR, according to EN 301 and EN 15425, suitable for loadbearing and non-load-bearing parts, indoors and outdoors
Formaldehyde release	E1 according to EN 717-1 (< 0.1 ppm)
Reaction to fire	D-s2, d0
Air tightness	from 60 mm, material is suitable for use as an airtight layer in exterior components
Change in wood moisture content	along and transverse to panel plane – 0.01 % per % perpendicular to panel plane – 0.2 % per %

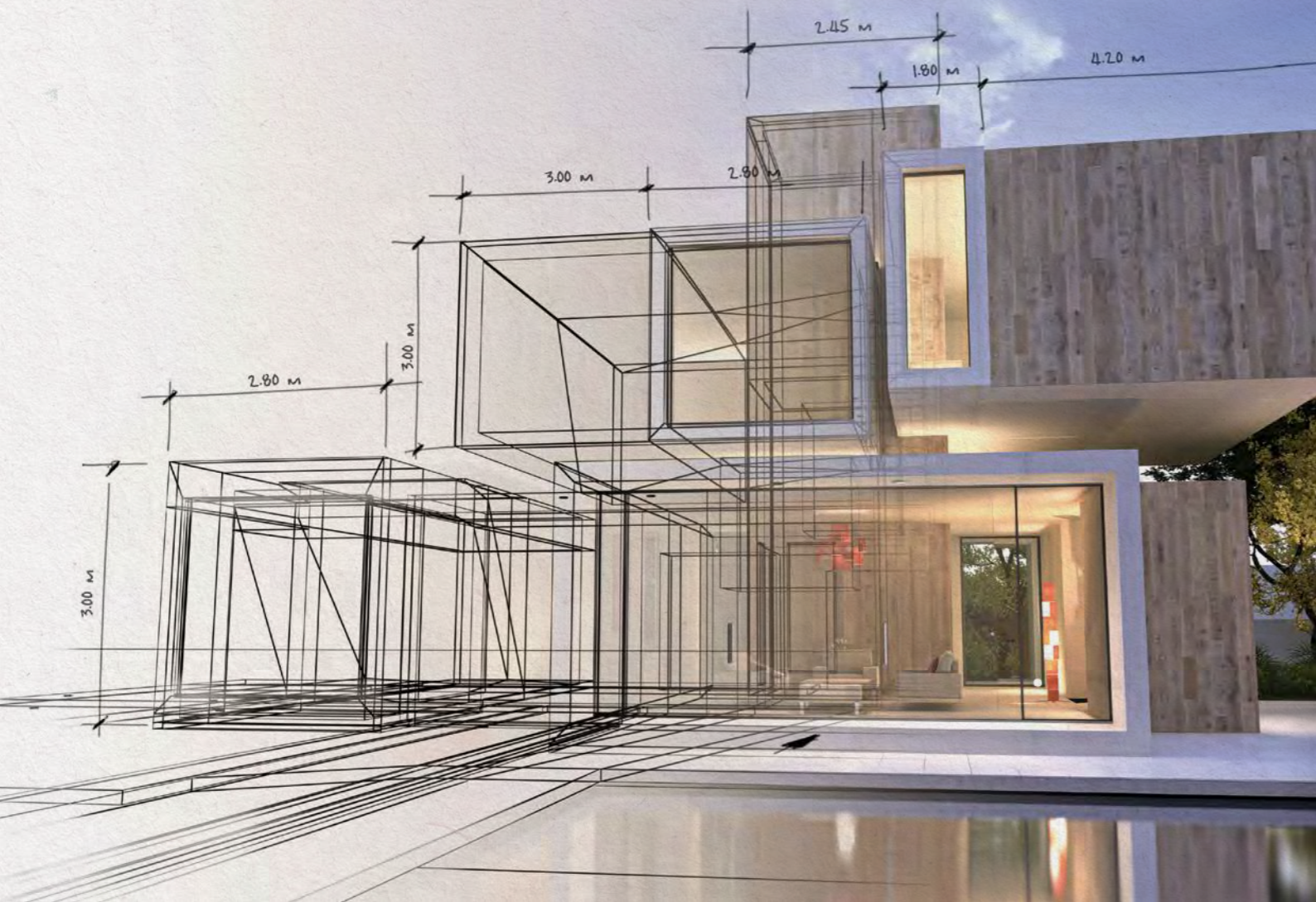


WE ACT
SUSTAINABLY
AND **ECO-
FRIENDLY**

PROJECT PROCESS



STRUCTURAL DESIGN



MECHANICAL ACTIONS PERPENDICULAR TO THE SOLID WOOD SLAB

Strength classes of raw material	> 90 % C24/T14/< 10 % C16/T11	
Modulus of elasticity	parallel to grain $E_{0,mean}$	12000 N/mm ²
	perpendicular to grain $E_{90,mean}$	370 N/mm ²
Shear modulus	parallel to grain $G_{090,mean}$	690 N/mm ²
	perpendicular to grain (rolling shear modulus) $G_{9090,mean}$	50 N/mm ²
Bending strength	parallel to grain $f_{m,k}$	26.4 N/mm ²
Tensile strength	perpendicular to grain $f_{t,90,k}$	0.12 N/mm ²
Compressive strength	perpendicular to grain $f_{c,90,k}$	2.5 N/mm ²
	parallel to grain $f_{v,090,k}$	4.0 N/mm ²
Shear strength	perpendicular to grain (rolling shear strength) $f_{v,9090,k}$	1.0 N/mm ²

MECHANICAL ACTIONS IN PLANE OF THE SOLID WOOD SLAB

Strength classes of raw material	> 90 % C24/T14/< 10 % C16/T11	
Modulus of elasticity	parallel to grain $E_{0,mean}$	12000 N/mm ²
Shear modulus	parallel to grain $G_{090,mean}$	460 N/mm ²
Bending strength	parallel to grain $f_{m,k}$	24 N/mm ²
Tensile strength	parallel to grain $f_{t,0,k}$	14 N/mm ²
Compressive strength	parallel to grain $f_{c,0,k}$	21 N/mm ²
Shear strength	parallel to grain $f_{v,090,k}$	4.0 N/mm ²

LOC STRUCTURAL DESIGN SERVICE

- Pre-statics of cross-laminated timber panels for walls and ceilings
- Verifiable statics for cross-laminated timber components or for complete construction
- Work planning with sized floor plans for wall and ceiling structures

PRE-FABRICATION

State-of-the-art facilities enable a variety of precise CNC-processing

- Format cutting/Angle cutting
- Ceiling or wall jointing with folding panel/step fold
- Double-sided jointing
- Milling for electrical and sanitary installations
- Holes, concealed holes
- Holes for lifting loops with or without bolts
- Holes for all common lifting systems
- Cut-outs for purlins, rafters, beams, culverts

Other special services

- Factory installation of weather protection films to seal CLT structures against moisture on the construction site
- UV protection for more intense uses
- Coating
- Other services are available on request

Computer interface, file formats

- hsbCAD (main software)
- *.sat (ACIS), 2D/3D *.dwg, *.dxf
- *.bvx and *.ifc
- *.step



WE WORK
PROACTIVELY,
FACT-BASED
AND **GOAL
ORIENTED**





TRANSPORT

The shipping of LOC Component is generally carried out lying down, in a previously specified loading order if requested.

Maximum load	25 t per truck
Maximum length	13.50 m standard, extra length or steered semi-truck on request
Maximum width	2.95 m, special transports up to 3.50 m
Transport costs on request	

Lifting systems, factory-installed

- Lifting loops
- Lifting loops with bolts

Transport packaging

LOC Component is transported protected from the weather. Panels are either individually covered with protective film or loaded in packages and covered with a tarpaulin.

CERTIFICATES

Our certificates represent the high quality of our products, our commitment to sustainability and our compliance with strict safety standards.

Detailed information on our certificates and technical information can be accessed at www.loc-holz.at/downloads



EUROPÄISCHE
TECHNISCHE BEWERTUNG

ETA - 23/0239

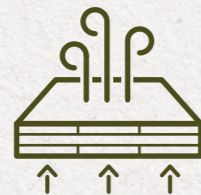


PEFC

PEFC/06-31-66



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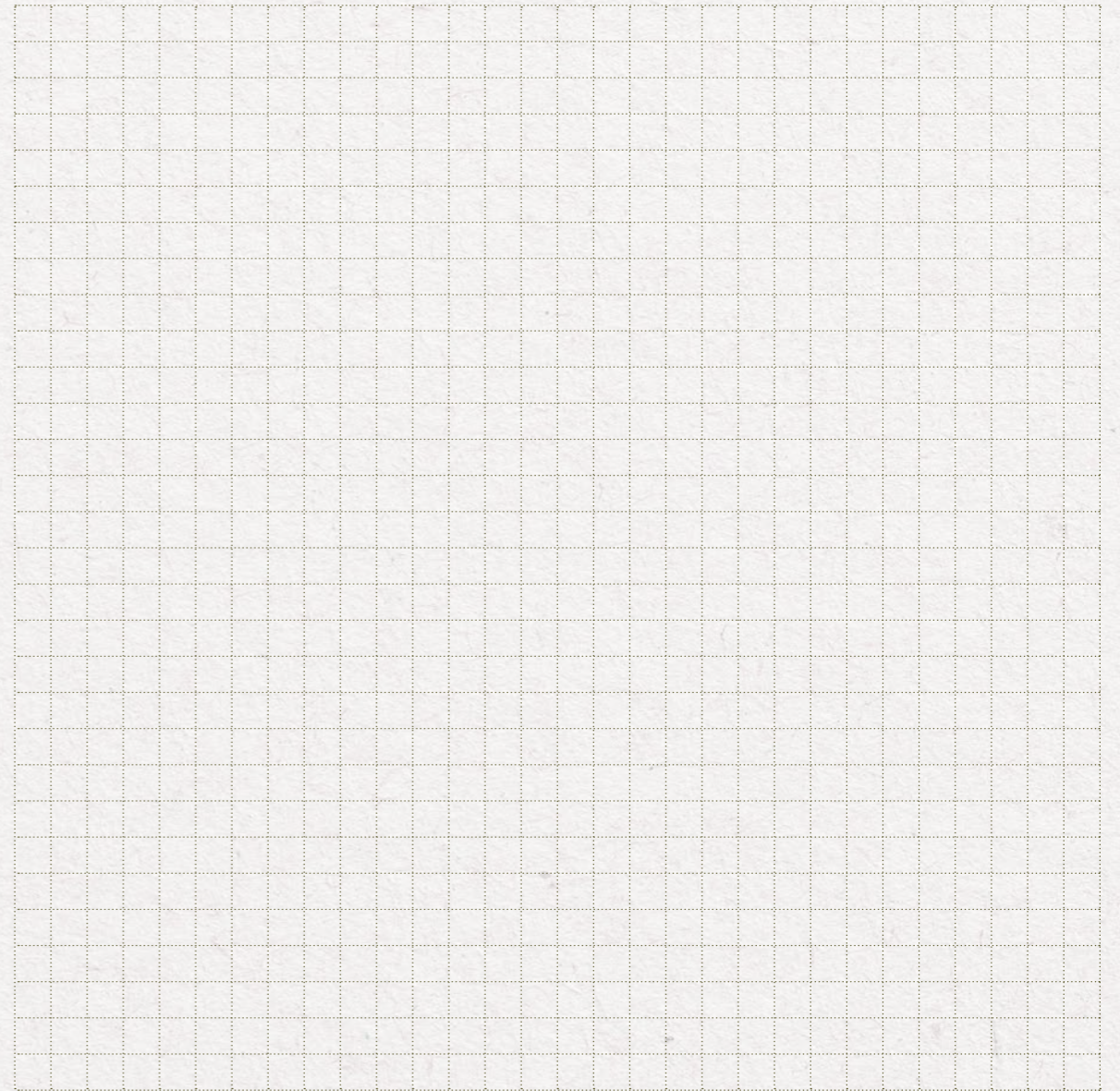
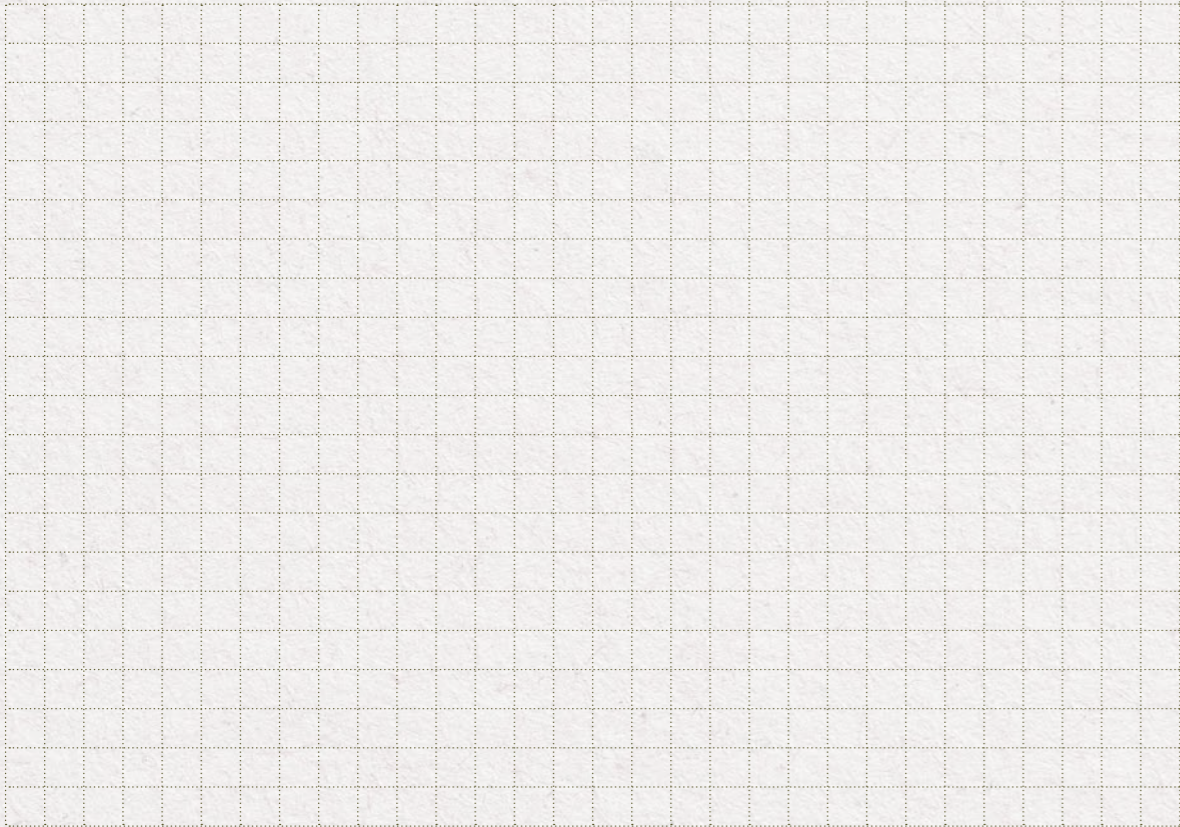


LUFTDURCHLÄSSIGKEIT

4085/2022/2

WE KEEP OUR
PROMISES AND
ACT SINCERELY

「
MY
NOTES
」





Contact us directly:



More information on:

www.loc-holz.at