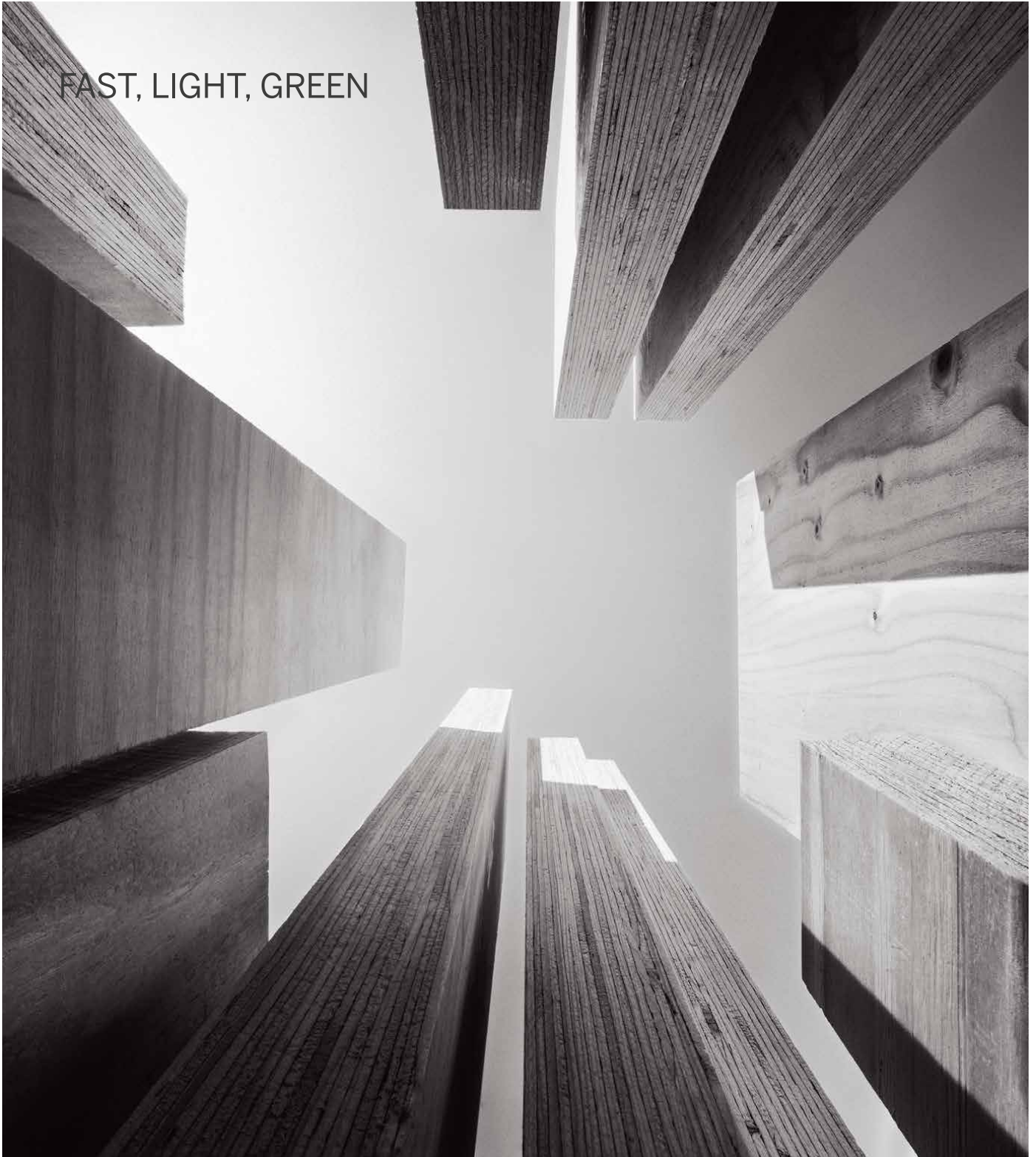


# **Kerto<sup>®</sup> LVL**

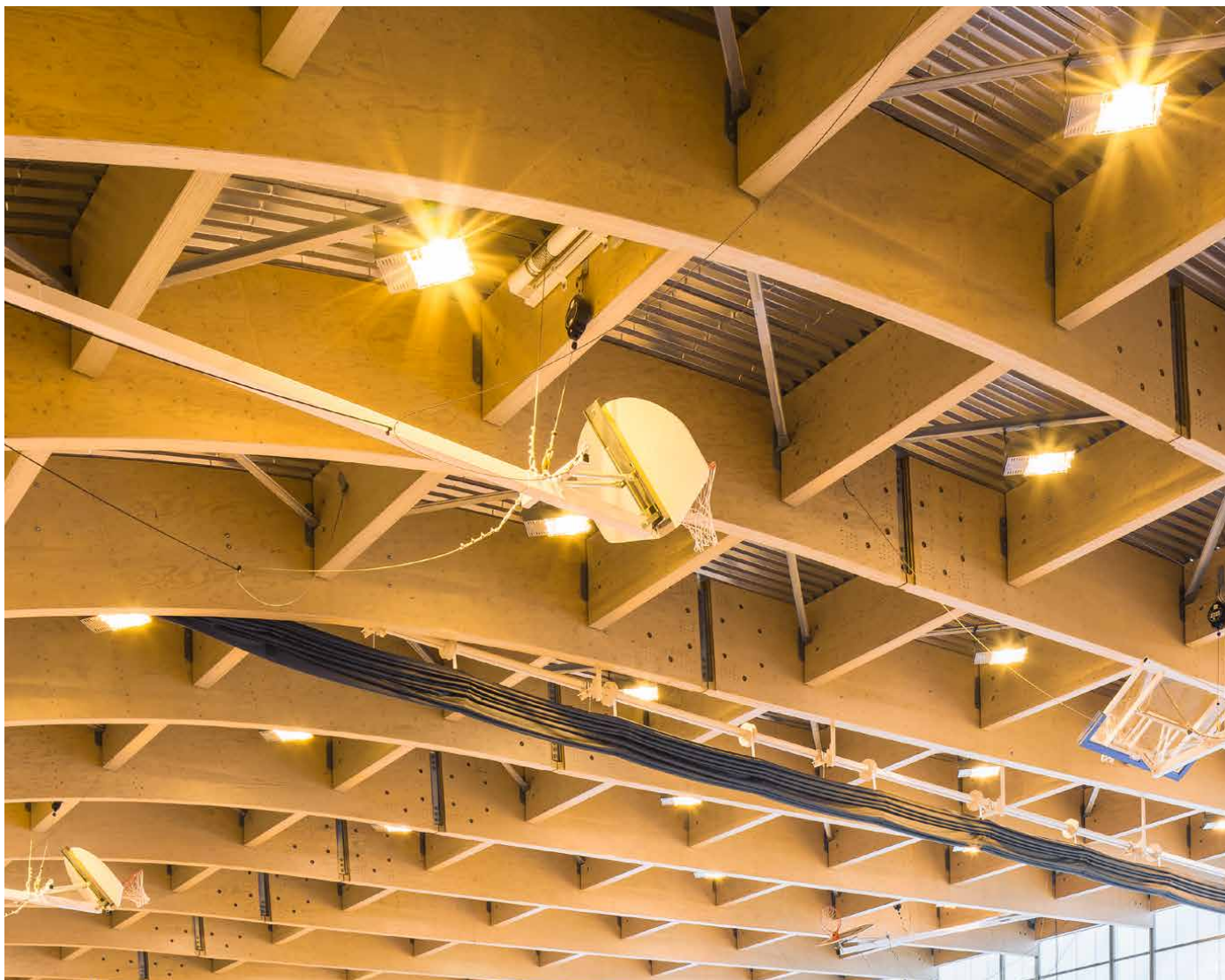
for load-bearing  
applications

FAST, LIGHT, GREEN



# Kerto LVL

## Strong and dimensionally stable



Kerto® LVL (laminated veneer lumber) is an engineered wood product used in all types of construction projects, from new buildings to renovation and repair. Kerto LVL is strong, lightweight and dimensionally stable. It does not warp or twist.



Clamart Sports Centre, image by Sergio Grazia



Kerto LVL is produced from 3 mm thick, rotary-peeled softwood veneers that are glued together to form a continuous sheet. The sheet is cut to length and sawn into beams, planks or panels in the sizes that customers require. Kerto LVL products are CE marked and certified by Eurofins Expert Services Oy.

#### EXAMPLES OF USE

- Beams
- Joists
- Trusses
- Frames
- Components of roof, floor and wall elements
- Components for the door and vehicle industry
- Concrete formwork
- Scaffold planking

#### ENVIRONMENTALLY FRIENDLY CONSTRUCTION MATERIAL

Renewable and recyclable wood is a highly eco-effective building material throughout its life cycle. The wood raw material for Kerto LVL comes from sustainably managed forests, ensuring that the origin of the raw material is traceable. The majority of the wood comes from PEFC certified northern forests.

The manufacturing of Kerto LVL products consumes only a small amount of energy and results in low carbon dioxide and other emissions. In addition, wooden structures store carbon.

The manufacturing is mainly based on renewable energy, and the energy and material efficiency of the production processes is continuously being improved.

# Kerto LVL S-beam enables long spans



In Kerto LVL S-beam, the veneer grains are oriented longitudinally through all the layers. The finished panel is cross-cut and rip-sawn to order. S-beam is normally supplied in the form of straight beams but it can also be specially cut and shaped as required.

Kerto LVL S-beam combines excellent technical performance with ease of use. Its essential qualities include strength, dimensional precision and stability. It is the ideal choice for beams whenever long spans and minimal deflections are required. Kerto LVL S-beam fulfills the requirements for strength class LVL 48 P.

Kerto LVL S-beams are suitable for all roof shapes, also performing well as joists and lintels, in trussed constructions and frames. S-beam is also a widely used material in the manufacture of prefabricated components.

Kerto LVL's light weight is of great advantage in repair and renovation work. Erection and installation can be carried out by fitters, without any heavy hoisting machinery, even in confined spaces.

## OVERALL DIMENSIONS

	Minimum (mm)	Maximum (mm)
<b>Thickness</b>	27	75
<b>Width/height</b>	40	2,500
<b>Length</b>	2,000*	25,000**

\* Short lengths are available on request (< 2,000 mm).

\*\* For products wider than 1,830 mm, maximum length is 20,000 mm.



## SPAN TABLES FOR KERTO LVL

Kerto LVL is suitable for floor, roof and wall structures. Its unique properties offer material efficiency and fast installation both for prefabrication production and on-site assembly. Span tables for Kerto LVL beams, panels and studs are presented on Metsä Wood web site. The tables help designers to work faster and more efficiently. For more information see Metsä Wood website at [www.metsawood.com](http://www.metsawood.com).

# Kerto LVL Q-panel stabilises structures



Kerto LVL Q-panel is a load-bearing, dimensionally stable panel that can be used in the most demanding structures. Q-panel can be used in Kerto LVL elements that enable stiff and high-quality floor and roof structures. Holes for example for HVAC equipment can be machined to the elements. Holes do not significantly reduce the load-bearing capacity when designed and machined according to the instructions.

Kerto LVL Q-panel is cross-bonded Kerto LVL in which one fifth of the veneers are glued crosswise. Cross-bonded structure improves the lateral bending strength and stiffness of the panel, thus increasing the shear strength when used as a beam. Reduction of moisture deformations in width direction of the panel is achieved by crosswise veneers in the lay-up. Kerto LVL Q-panel with thicknesses 27–75 mm fulfil the requirements for strength class LVL 36 C and thicknesses 21–24 mm fulfil the requirements for strength class LVL 32 C.

Full length Kerto LVL Q-panel is a popular material in floor and wall panels because it stabilises the whole structure. Good fire resistance is achieved with a properly chosen thickness. Q-panel provides a functional solution in structural components, particularly when a high shear strength is one of the requirements. Like all Kerto LVL products, Q-panel is known for its strength, straightness and dimensional stability.

## OVERALL DIMENSIONS

	Minimum (mm)	Maximum (mm)
<b>Thickness</b>	21	75
<b>Width/height</b>	200	2,500
<b>Length</b>	2,000*	25,000**

\* Short lengths are available on request (< 2,000 mm).

\*\* For products wider than 1,830 mm, maximum length is 20,000 mm.

## KERTO LVL Q-PANEL: VENEER STRUCTURE

Thickness (mm)	qty	Lay-up
21	7	I-III-I
21	7	II-I-II
24	8	II-II-II
27	9	II-III-II
30	10	II-III-II
33	11	II-III-II
39	13	II-III-III-II
45	15	II-III-III-II
51	17	II-III-III-III-II
57	19	II-III-III-III-II
63	21	II-III-III-III-III-II
69	23	II-III-III-III-III-II
75	25	II-III-III-III-III-II

I = veneer grain direction along the main panel direction  
 - = veneer grain direction across the main panel direction

# Kerto LVL Qp-beam for high and rigid roof beams

Kerto LVL Qp-beam is a dimensionally accurate roof beam that can be used in the roof structures of new constructions and repairs. Qp-beam enables spacious rooms and reduces the need for supporting lines.

The structure of Kerto LVL Qp-beam is unique: slender and high, but rigid. Qp-beam can be produced higher and more slender than the traditional Kerto LVL S-beam. Using Qp-beams increases the cost efficiency of construction projects. Reduction of moisture deformations in height direction of the beam is achieved by crosswise veneers in the lay-up.

## OVERALL DIMENSIONS

	Minimum (mm)	Maximum (mm)
<b>Thickness</b>	39	75
<b>Width/Height</b>	500*	830
<b>Length</b>	2,000*	20,000

\*Short lengths (< 2,000 mm) are available on request



# Kerto LVL T-stud for wall studs

Kerto LVL T-stud has a similarly oriented structure as Kerto LVL S-beam but is made from lighter veneers. The straightness and dimensional stability of T-stud is similar to S-beam. These properties make T-stud ideal for load-bearing and non-bearing structures in external and internal walls. Kerto LVL T-stud fulfills the requirements for strength class LVL 32 P.

Straight and high walls can be easily constructed with Kerto LVL T-stud. Different sheathing materials can be used with T-stud and they are easy to fasten with conventional wood working tools.

## OVERALL DIMENSIONS

	Minimum (mm)	Maximum (mm)
<b>Thickness</b>	27	75
<b>Width/Height</b>	40	200*
<b>Length</b>	2,000	16,000*

\*Special widths and lengths are available on request



# Kerto LVL L-panel enables material efficiency

Kerto LVL L-panel has similarly oriented structure as Kerto LVL Q-panel but is made from lighter veneers. L-panel combines excellent technical performance with lightweight and dimensional stability. Kerto LVL L-panel with thicknesses 27–69 mm fulfil the requirements for strength class LVL 25 C and thicknesses 21–24 mm fulfil the requirements for strength class LVL 22 C.

The panel is designed for both horizontal and vertical use in light-duty and non-load bearing applications. Use of large L-panel sizes ensures material efficiency and minimises installation time.

## OVERALL DIMENSIONS

	Minimum (mm)	Maximum (mm)
<b>Thickness</b>	27	69
<b>Width/Height</b>	200	2,500
<b>Length</b>	2,000*	25,000**

\*Short lengths (< 2,000 mm) and widths under 200 mm on request  
\*\* Products wider than 1,830 mm, maximum length 20,000 mm



# Kerto LVL for wood construction



Kerto LVL products make construction fast, light and green.

The construction industry is undergoing a major transition, with construction moving from building sites to off-site manufacturing. Using prefabricated wooden elements significantly reduces the time spent at the construction site. Elements and modules are assembled in factory conditions and delivered to building sites for quick installation. Cut-to-size Kerto LVL products and optimised element production ensure material efficiency with minimal waste. The lightweight and strength properties of engineered wood products like Kerto LVL make off-site construction a very attractive option.

Wood is renewable material and the only major construction material that stores carbon. At the end of their life, Kerto LVL products can be recycled or utilised in bioenergy production.

**KERTO LVL PRODUCTS ARE USED IN A VARIETY OF APPLICATIONS IN THE CONSTRUCTION INDUSTRY, FOR EXAMPLE:**

- Roof, wall and floor elements
- Modules
- Timber frames
- Load-bearing structures
- Scaffolding and working platforms







## Kerto LVL for industrial applications

Kerto LVL is an excellent material to use in a wide variety of industrial applications. Dimensional stability, straightness and dimensional accuracy enable efficient manufacturing. Kerto LVL is easy to machine and handle in industrial processes.

- Components for prefabricated housing industry
- Doors and door frames
- Composite windows
- Concrete formwork
- Vehicle industry



## Kerto LVL for distributors

Premium products, reliable supply chain and professional support are the cornerstones of a great partnership. Kerto LVL products are sold through a range of distribution partners that include leading DIY chains and national builders' merchants.



# DESIGN VALUES AND PHYSICAL PROPERTIES FOR KERTO LVL PRODUCTS

## KERTO LVL S-BEAM, KERTO LVL Q-PANEL AND KERTO LVL T-STUD

PROPERTY	SYMBOL	S-BEAM <sup>1)</sup> 21–75 mm	Q-PANEL <sup>2)</sup> 21–24 mm	Q-PANEL <sup>2)</sup> 27–75 mm	T-STUD <sup>3)</sup> 27–75 mm	UNIT
<b>Fullfills strength class</b>		LVL 48 P	LVL 32 C	LVL 36 C	LVL 32 P	
<b>Bending strength (5% fractile)</b>						
Edgewise (depth 300 mm)	$f_{m,0,edge,k}$	44.0	28.0	32.0	27.0	N/mm <sup>2</sup>
Size effect parameter	$s$	0.12	0.12	0.12	0.15	-
Flatwise, parallel to grain	$f_{m,0,flat,k}$	50.0	32.0	36.0	32.0	N/mm <sup>2</sup>
Flatwise, perpendicular to grain	$f_{m,90,flat,k}$	-	7.0 <sup>6)</sup>	8.0	-	N/mm <sup>2</sup>
<b>Tensile strength (5% fractile)</b>						
Parallel to grain (length 3000 mm)	$f_{t,0,k}$	35.0	19.0	26.0	22.0	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$f_{t,90,edge,k}$	0.8	6.0	6.0	-	N/mm <sup>2</sup>
<b>Compressive strength (5% fractile)</b>						
Parallel to grain	$f_{c,0,k}$	35.0 <sup>5)</sup>	19.0 <sup>5)</sup>	26.0 <sup>5)</sup>	26.0 <sup>5)</sup>	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$f_{c,90,edge,k}$	6.0	9.0	9.0	4.0	N/mm <sup>2</sup>
Perpendicular to grain, flatwise	$f_{c,90,flat,k}$	2.2	2.2	2.2	0.8	N/mm <sup>2</sup>
<b>Shear strength (5% fractile)</b>						
Edgewise	$f_{v,0,edge,k}$	4.2	4.5	4.5	3.6	N/mm <sup>2</sup>
Flatwise, parallel to grain	$f_{v,0,flat,k}$	2.3	1.3	1.3	2.0	N/mm <sup>2</sup>
Flatwise, perpendicular to grain	$f_{v,90,flat,k}$	-	0.6	0.6	-	N/mm <sup>2</sup>
<b>Modulus of elasticity (mean)</b>						
Parallel to grain, along	$E_{0,mean}$	13,800	10,000	10,500	9,600	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$E_{90,edge,mean}$	430	2,400	2,400	-	N/mm <sup>2</sup>
Perpendicular to grain, flatwise	$E_{90,flat,mean}$	130	130	130	-	N/mm <sup>2</sup>
Parallel to grain, across	$E_{90,mean}$	-	1,200 <sup>6)</sup>	2,000	-	N/mm <sup>2</sup>
<b>Shear modulus (mean)</b>						
Edgewise	$G_{0,edge,mean}$	600	600	600	500	N/mm <sup>2</sup>
Flatwise, parallel to grain	$G_{0,flat,mean}$	380	80	120	320	N/mm <sup>2</sup>
<b>Dimensional variation coefficient <sup>4)</sup></b>						
Thickness		0.0024	0.0024	0.0024	0.0024	-
Width / Height		0.0032	0.0003	0.0003	0.0032	-
Length		0.0001	0.0001	0.0001	0.0001	-
<b>Other properties</b>						
Characteristic density	$\rho_k$	480	480	480	410	kg/m <sup>3</sup>
Mean density	$\rho_{mean}$	510	510	510	440	kg/m <sup>3</sup>
Moisture content (on mill delivery)		10 %	10 %	10 %	10 %	-
Performance in fire, charring rate	$\beta_n$	0.7	0.7	0.7	0.75	mm/min
Euroclass with regard to reaction to fire		D-s1,d0	D-s1,d0	D-s1,d0	D-s1,d0	-

<sup>1)</sup> Kerto LVL S-beam Declaration of Performance MW/LVL/311-001/CPR/DOP and Eurofins certificate EUFI29-20000676-C. Kerto LVL S-beam (21-75mm) fullfills the requirements for strength class LVL 48 P.

<sup>2)</sup> Kerto LVL Q-panel Declaration of Performance MW/LVL/312-001/CPR/DOP and Eurofins certificate EUFI29-20000676-C. Kerto LVL Q-panel with thicknesses 27–75 mm fulfil the requirements for strength class LVL 36 C and thicknesses 21–24 mm fulfil the requirements for strength class LVL 32 C.

<sup>3)</sup> Kerto LVL T-stud Declaration of Performance MW/LVL/314-001/CPR/DOP. Kerto LVL T-stud fullfills the requirements for strength class LVL 32 P.

<sup>4)</sup> Dimensional change of cross-section due to change of moisture content (change of moisture content% × dimensional variation coefficient × dimension)

<sup>5)</sup> In service class 2 the values are recommended to be divided by 1.2

<sup>6)</sup> For the lay-up I-III-I the values 14.0 and 3,300 can be used instead of 7.0 and 1,200

# DESIGN VALUES AND PHYSICAL PROPERTIES FOR KERTO LVL PRODUCTS

## KERTO LVL Qp-BEAM AND KERTO LVL L-PANEL

PROPERTY	SYMBOL	Qp-BEAM <sup>1)</sup> 39–51 mm	Qp-BEAM <sup>1)</sup> 54–75 mm	L-PANEL <sup>2)</sup> 21–24 mm	L-PANEL <sup>2)</sup> 27–69 mm	UNIT
<b>Fullfills strength class</b>				LVL 22 C	LVL 25 C	
<b>Bending strength (5% fractile)</b>						
Edgewise (depth 300 mm)	$f_{m,0,edge,k}$	36.0	38.0	19.0	20.5	N/mm <sup>2</sup>
Size effect parameter	$s$	0.12	0.12	0.15	0.15	-
Flatwise, parallel to grain	$f_{m,0,flat,k}$	36.0	36.0	22.5	25.0	N/mm <sup>2</sup>
Flatwise, perpendicular to grain	$f_{m,90,flat,k}$	7.5	6.5	5.5	7.0	N/mm <sup>2</sup>
<b>Tensile strength (5% fractile)</b>						
Parallel to grain (length 3000 mm)	$f_{t,0,k}$	28.0	30.0	15.0	17.0	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$f_{t,90,edge,k}$	3.0	2.5	4.0	4.0	N/mm <sup>2</sup>
<b>Compressive strength (5% fractile)</b>						
Parallel to grain	$f_{c,0,k}$	28.0 <sup>4)</sup>	30.0 <sup>4)</sup>	18.0 <sup>4)</sup>	19.0 <sup>4)</sup>	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$f_{c,90,edge,k}$	6.0	6.0	8.0	8.0	N/mm <sup>2</sup>
Perpendicular to grain, flatwise	$f_{c,90,flat,k}$	2.2	1.8	2.0	2.0	N/mm <sup>2</sup>
<b>Shear strength (5% fractile)</b>						
Edgewise	$f_{v,0,edge,k}$	4.2	4.1	4.0	4.0	N/mm <sup>2</sup>
Flatwise, parallel to grain	$f_{v,0,flat,k}$	1.3	1.3	1.2	1.2	N/mm <sup>2</sup>
Flatwise, perpendicular to grain	$f_{v,90,flat,k}$	-	-	0.5	0.5	N/mm <sup>2</sup>
<b>Modulus of elasticity (mean)</b>						
Parallel to grain, along	$E_{0,mean}$	11,700	12,300	6,700	7,500	N/mm <sup>2</sup>
Perpendicular to grain, edgewise	$E_{90,edge,mean}$	430	430	1,700	1,700	N/mm <sup>2</sup>
Perpendicular to grain, flatwise	$E_{90,flat,mean}$	130	130	-	-	N/mm <sup>2</sup>
Parallel to grain, across	$E_{90,mean}$	2,000	2,000	700	1,300	N/mm <sup>2</sup>
<b>Shear modulus (mean)</b>						
Edgewise	$G_{0,edge,mean}$	600	600	500	500	N/mm <sup>2</sup>
Flatwise, parallel to grain	$G_{0,flat,mean}$	120	120	70	70	N/mm <sup>2</sup>
<b>Dimensional variation coefficient <sup>3)</sup></b>						
Thickness		0.0024	0.0024	0.0024	0.0024	-
Width / Height		0.0032	0.0032	0.0032	0.0032	-
Length		0.0001	0.0001	0.0001	0.0001	-
<b>Other properties</b>						
Characteristic density	$\rho_k$	480	480	440	440	kg/m <sup>3</sup>
Mean density	$\rho_{mean}$	510	510	410	410	kg/m <sup>3</sup>
Moisture content (on mill delivery)		10 %	10 %	10 %	10 %	-
Performance in fire, charring rate	$\beta_n$	0.7	0.7	0.7	0.7	mm/min
Euroclass with regard to reaction to fire		D-s1,d0	D-s1,d0	D-s1,d0	D-s1,d0	-

<sup>1)</sup> Kerto LVL Qp-panel Declaration of Performance MW/LVL/313-001/CPR/DOP and VTT-S-05156-11.

<sup>2)</sup> Kerto LVL L-panel Declaration of Performance MW/LVL/318-001/CPR/DOP.

Kerto LVL L-panel with thicknesses 27–69 mm fulfil the requirements for strength class LVL 25 C and thicknesses 21–24 mm fulfil the requirements for strength class LVL 22 C.

<sup>3)</sup> Dimensional change of cross-section due to change of moisture content (change of moisture content% × dimensional variation coefficient × dimension)

<sup>4)</sup> In service class 2 the values are recommended to be divided by 1.2

## TOLERANCES OF KERTO LVL PRODUCTS

	Size (mm)	Min	Max
Thickness	≤ 27 mm	-1.0 mm	+1.0 mm
	27 < t ≤ 57 mm	-2.0 mm	+2.0 mm
	t > 57 mm	-3.0 mm	+3.0 mm
Width/height	< 400 mm	-2.0 mm	+2.0 mm
	≥ 400 mm	-0.5 %	+0.5 %
Length	all	-5.0 mm	+5.0 mm

In moisture content of 10 +/- 2 %, special tolerances on request.

## SANDING OF KERTO LVL AFFECTS PRODUCT THICKNESSES.

- Optical sanding reduces the original nominal thickness by approximately 2 mm. The standard thickness tolerances apply to the sanded nominal thickness. Structural design shall be made according to the sanded nominal thickness.
- Calibrated sanding reduces the original nominal thickness by approximately 3 mm. The thickness tolerance of calibrated sanded products is +/- 0.5 mm from the target thickness. The dark glue line may become visible as it is allowed to sand through the face veneers. Structural design shall be made according to the sanded nominal thickness.

# Further processing

Kerto LVL products can be further processed in several ways according to end-use and customer's particular preferences. The further processing service is an integral part of the customer service and supply chain. Further processing takes place at the production plant or at a service centre in a particular country, whichever is more convenient and economically efficient for the customer.



## FURTHER PROCESSING

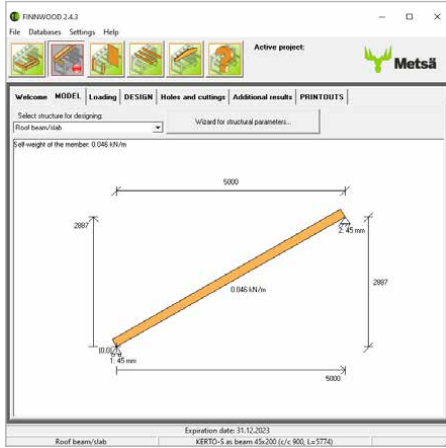
Kerto LVL S-beams can be further processed in various ways according to end-use requirements.

<b>Sanding</b>	Optical sanding, 2 sided only Calibrated sanding, 2 sided only
<b>Machining</b>	Beams machined to special size and shape, notches and holes
<b>Multiple-gluing (GLVL) - not CE marked</b>	Heavy duty beams from 78 mm up to 144 mm , higher beams available on request
<b>Temporary weather protection</b>	WeatherGuard
<b>Treatment against mould</b>	MouldGuard
<b>Treatment against termites (Australia)</b>	H2S-treatment



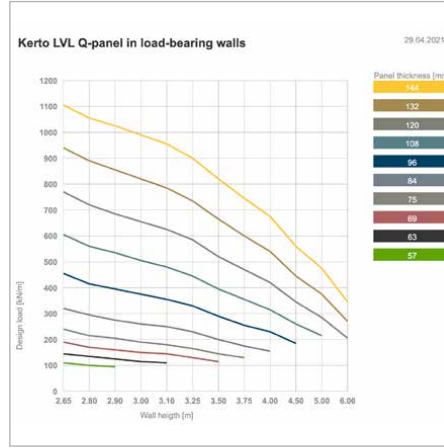
# Design tools for Kerto LVL

Metsä Wood supports structural timber design by providing several handy calculation and design tools. These tools can help pre-designing your projects and details thus reducing time and resources needed at the site. Find all the design tools here [metsagroup.com/metsawood/products-and-services/design-tools](https://metsagroup.com/metsawood/products-and-services/design-tools)



## FINNWOOD DESIGN SOFTWARE

Simple and easy to use, Finnwood software performs calculations for individual beams and columns made of Kerto® LVL and other Metsä Wood products.



## SPAN TABLES FOR KERTO LVL

The tables describe the most common measurements according to local requirements for different Kerto LVL structures in floors, roofs and walls. By using these tables you can find the most optimal cross-sections for the structures of your project.

**Carbon storage** Units: Metric

Trees absorb carbon dioxide from the atmosphere and store the carbon in the wood material. This carbon stays stored in the wood products as long as the products are used.

Product group: Kerto® LVL

Product: KERTO LVL S-beam

Amount / m<sup>3</sup>: 10

**CALCULATE**

Carbon storage: **7940 kg CO<sub>2</sub>eq**

## CARBON STORAGE CALCULATOR

The carbon storage calculator calculates the carbon stored in different Metsä Wood products by volume and helps our customers and designers make more sustainable choices for building products.



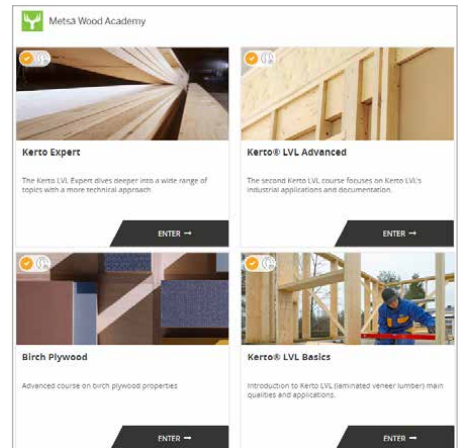
## BIM DESIGN OBJECTS AVAILABLE FOR LEADING BUILDING DESIGN SOFTWARE

Kerto LVL products are available directly in several leading building design software and product library tools. Supported software includes AutoCAD, Revit, ArchiCAD, SketchUp, Dlubal Software and many more.



## KERTO LVL MANUAL AND EUROPEAN LVL HANDBOOK

Kerto LVL Manual and European LVL handbook are user guides for the structural designer and helps in the design of wooden structures according to Eurocode 5. Manuals also offers a comprehensive info package about Kerto LVL products and their applications.



## METSÄ WOOD ACADEMY ONLINE COURSES

Metsä Wood Academy is a free online e-learning platform. The material includes Kerto LVL basic and Kerto LVL expert courses, as well as courses related to Metsä Wood's other main product groups.

# Kerto LVL references

As a leading supplier of wood products, Metsä Wood knows from experience that Nordic premium wood is the best renewable raw material in the world. When used correctly, it saves money, time and environment.

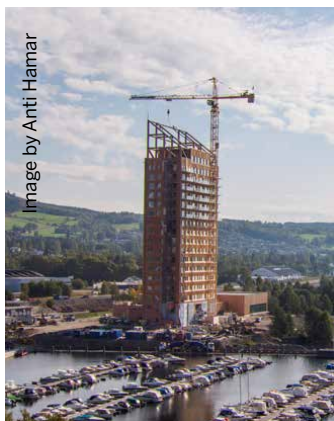


Image by Anti Hamar

**Mjøstårnet, Norway**  
The Europe's tallest wood building



**Metsä Wood Pärnu mill, Estonia**  
Fast construction with wooden roof elements



**Pro Nemus, Finland**  
Metsä Group's visitor centre, a showcase of engineered wood



Felix Cielich and architecture firm Tengbom

**Östermalm market, Sweden**  
Temporary market hall



**Monicahof, Netherlands**  
Sustainable, safe and material-efficient residential building



**Brüninghoff, Germany**  
13 m high wall elements



**Linnanfältti, Finland**  
Efficient off-site construction with wooden elements



**Building D(emountable), Netherlands**  
Easily mountable and demountable



**Verksbyen, Norway**  
Future of sustainable living



**Port of Amsterdam, Netherlands**  
Focus in circular economy



**Padel hall, Sweden**  
Market hall gets a new life as a sports venue



**Little Finlandia, Finland**  
Multifunctional and reusable event venue

For more inspiration, visit [metsagroup.com/metsawood/news-and-publications/references/](https://metsagroup.com/metsawood/news-and-publications/references/)

Metsä Wood is one of the leading European producers of engineered wood products. We are committed to serving three segments: construction, industrial and distribution customers. Our primary products are Kerto® LVL, plywood and other wood products.

In 2019, Metsä Wood's sales were EUR 0.4 billion, and it employs approximately 1,500 people. Metsä Wood is part of Metsä Group.

For more information and contacts:  
[metsagroup.com/metsawood](https://metsagroup.com/metsawood)

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