

Kerto® LVL

S-beam



Kerto® LVL S-beam combines excellent technical performance with ease of use. Its essential qualities include strength, dimensional stability and light weight. It is an ideal choice for all types of construction projects – renovation, new buildings, pre-fabricated houses and elements.

Kerto LVL S-beam is made of 3 mm thick strength graded softwood veneers. The grain direction of all the veneers is the same. The veneers are bonded with weather- and boil-resistant phenol formaldehyde adhesive.

S-beams can be used both as horizontal and vertical bearers in various construction applications. S-beam has excellent strength-to-weight ratio which allows long spans with minimal deflection. Installation can be carried out without any heavy machinery, even in confined spaces.

Applications

Structural applications:

- Beams and headers
- Lintels
- Floor joists
- Rafters and ridge beams
- Truss chords
- Studs and columns
- Portal frames
- Components for roof, floor and wall elements

Industrial applications:

- Industrial and heavy duty door frames
- Concrete formwork
- Scaffolding

Major advantages

- **Strong and rigid**
- **Excellent strength-to-weight ratio**
- **Long spans with minimal deflection**
- **Dimensional stability improved against warp and twist**
- **Great workability and quick to install**
- **Easy to fasten, staple, screw, nail and drill using conventional woodworking tools**
- **Ensures material efficiency with customised product dimensions**
- **Easy to design with free Finnwood design software**
- **Made of sustainable northern wood and PEFC certified**
- **Kerto LVL (1 m³) contains the stored carbon equivalent to 794 kg CO₂**

Approvals and design properties

Kerto LVL S-beam is CE marked and the design properties are determined according to standard EN 14374. The design properties given in the Declaration of Performance (DoP) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from www.metsawood.com/dop.

S-beam has also Eurofins product certificate and national approvals in USA, Norway, Australia, Germany and Japan. Design properties for structural design outside Europe are given in the related approval documents.

Kerto LVL production is managed according to the principles of standard ISO 9001. The quality and the constancy of performance of the product is controlled by regular third party inspections and audits.

Overall dimensions

	MINIMUM (mm)	MAXIMUM (mm)
Thickness	27	75
Width/height	40	2,500
Length	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.

Standard tolerances

	SIZE	MINIMUM	MAXIMUM
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 are available 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.

Bonding

Kerto LVL is bonded with a weather- and boil-resistant phenol formaldehyde adhesive. The gluing meets the requirements of the standard EN 14374. The face veneer scarf joints on the front side of the product are glued with colourless adhesive.

During hot pressing the adhesive cures as thermoset plastic, and therefore is inert and non-hazardous to humans and animals.

Formaldehyde emissions

Determined according to EN 717-1, the formaldehyde emitted by Kerto LVL falls far below the Class E1 requirement of ≤ 0.100 ppm and fulfils also the most stringent requirements in the world (≤ 0.030 ppm). The formaldehyde emission of Kerto LVL is approximately 0.018 ppm.

Further processing

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

Sanding	Optical sanding, 2 sided only Calibrated sanding, 2 sided only
Machining	Special sizes and shapes, notches and holes
Multiple gluing (GLVL) - not CE marked	Heavy duty beams from 78 mm up to 144 mm, beams above 144 mm available on request
Temporary weather protection - up to width 610 mm	WeatherGuard
Treatment against mould	MouldGuard
Treatment against termites (Australia only)	H2S treatment

Packing

Products are packed in moisture-resistant plastic wrapping or packing hoods. Packages can be stored outside only temporarily. Longer-term storage is recommended under cover in dry conditions.

On request the products can be delivered without plastic wrapping. In this case products shall not be exposed to weather.

Further information

- Kerto LVL S-beam Declaration of Performance (www.metsawood.com/dop)
- Eurofins Product Certificate EUFI29-20000676-C
- Kerto LVL Manual (www.metsawood.com/kertomanual)
- Kerto LVL for Load Bearing Applications brochure

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