

# Kerto® LVL



## METSÄ WOOD KERTO LVL PRODUCTS

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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 (PEFC/02-31-03) certified**
- **Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>**

### APPROVALS AND DESIGN PROPERTIES

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

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

### PACKAGING

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](http://www.metsawood.com/dop))
- Kerto LVL S-beam the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Eurofins Product Certificate EUFI29-20000676-C
- Kerto LVL Manual ([metsagroup.com/kertomanual](http://metsagroup.com/kertomanual))
- Kerto LVL for Load Bearing Applications brochure

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# Kerto® LVL

## Q-panel



Kerto® LVL Q-panel is a load-bearing and dimensionally stable product that can be used in both horizontal and vertical structures. Q-panel can be used in the most demanding applications. Use of large Q-panel ensures material efficiency and minimizes installation time.

Kerto LVL Q-panel is made of 3 mm thick strength graded softwood veneers of which approximately 20 % are oriented in crosswise direction. The veneers are bonded with weather- and boil-resistant phenol formaldehyde adhesive. Q-panel has outstanding strength-to-weight ratio. Crosswise veneers ensure excellent dimensional stability and enhance the transverse strength and stiffness of the panel.

Q-panel is an ideal material for load-bearing applications including floor, wall and roof elements due to its stiffness, strength properties and light weight. It can be used in both horizontal and vertical applications.

### APPLICATIONS

#### Structural applications:

- Panel product for roof, floor and wall constructions
- High and slender beams
- Headers and lintels
- Portal frames

#### Industrial applications:

- Free shaped beams and panels (CNC machining)
- Components for prefabricated roof, floor and wall elements and modules
- Doors and windows
- Concrete formwork

### MAJOR ADVANTAGES

- **Strong and rigid**
- **Excellent strength-to-weight ratio**
- **Dimensional stability improved against warp and twist**
- **Great workability and quick to install**
- **Easy to fasten, nail and drill**
- **Ensures material efficiency with customised product dimensions**
- **High and slender beams for energy efficient constructions**
- **Large panels up to 2500 mm wide, 20 m long**
- **Easy to design with free Finnwood software**
- **Made of sustainable northern wood and PEFC (PEFC/02-31-03) certified**
- **Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>**

### APPROVALS AND DESIGN PROPERTIES

Kerto LVL Q-panel is CE and UKCA marked and the design properties are determined according to standard EN 14374. The design properties given in the Declaration of Performance (DoP) and in the UK Declaration of Conformity (UK DoC) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from [www.metsawood.com/dop](http://www.metsawood.com/dop) and the UK DoC documents can be downloaded from [www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc).

Q-panel has also Eurofins product Certificate and national approvals in Germany, Norway, Australia and Japan. Design properties outside Europe are given in the approval documents.

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

### OVERALL DIMENSIONS

|              | MINIMUM (mm) | MAXIMUM (mm) |
|--------------|--------------|--------------|
| Thickness    | 21           | 75           |
| Width/height | 200          | 2 500        |
| Length       | 2 000*       | 25 000**     |

\* Short lengths (< 2 000 mm) and widths under 200 mm are available on request.

\*\* 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.

### PANEL CONSTRUCTIONS

| THICKNESS (mm) | NUMBER OF PLYS | 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-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 |

Special constructions are available on request.

### 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 also fulfils 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 Q-panel can be further processed in various ways according to end-use requirements.

|                              |   |
|------------------------------|---|
| Sanding                      | Optical sanding, 2 sided only<br>Calibrated sanding, 2 sided only                                       |
| Edge profiling               | Tongue and groove, half-lap   |
| Machining                    | Machined to special size and shape, notches and holes   |
| Multiple-gluing (GLVL)       | Heavy duty beams from 78 mm up to 144 mm,<br>beams above 144 mm available on request<br>- not CE marked |
| Temporary weather protection | WeatherGuard - up to width 610 mm   |
| Treatment against mould      | MouldGuard  |
| Treatment against termites   | H2S treatment (Australia only)  |

### PACKAGING

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 Q-panel Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Kerto LVL Q-panel the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Eurofins product certificate EUFI29-20000676-C
- Kerto Manual ([metsagroup.com/kertomanual](http://metsagroup.com/kertomanual))
- Kerto for Load Bearing Applications brochure

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Kerto® LVL T-stud is a perfect product for load-bearing and non-load-bearing internal and external walls. T-stud has excellent strength-to-weight ratio, is dimensionally stable and easy to fasten and drill.

Kerto LVL T-stud is made of 3 mm thick light-weight softwood veneers. The veneers bonded with weather- and boil-resistant adhesive. The grain direction of all the veneers is the same. The light-weight product is easy to handle at construction site.

### APPLICATIONS

#### Structural applications:

- Wall studs for internal walls
- Wall studs for external walls
- Secondary joist for floors

#### Industrial applications:

- Door and window frames
- Furniture
- Support structures for concrete formwork
- Packaging industry

### MAJOR ADVANTAGES

- **Light-weight product, easy to handle and lift manually at construction site**
- **Excellent strength-to-weight ratio**
- **Dimensional stability improved against warp and twist**
- **Great workability and quick to install**
- **Easy to fasten with screws, nails and staples, and work with conventional woodworking tools**
- **Ensures material efficiency with customised product dimensions**
- **Made of sustainable Nordic wood and PEFC (PEFC/02-31-03) certified**
- **Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>**

### APPROVALS AND DESIGN PROPERTIES

Kerto LVL T-stud is CE and UKCA marked and the design properties are determined according to standard EN 14374. The design properties given in the Declaration of Performance (DoP) and in the UK Declaration of Conformity (UK DoC) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from [www.metsawood.com/dop](http://www.metsawood.com/dop) and the UK DoC documents can be downloaded from [www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc).

T-stud has also approvals in Norway and Germany.

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

### OVERALL DIMENSIONS

|              | MINIMUM (mm) | MAXIMUM (mm) |
|--------------|--------------|--------------|
| Thickness    | 27           | 75           |
| Width/height | 40           | 200*         |
| Length       | 2,000        | 16,000*      |

\* Special widths and lengths are available on request.

### 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 amount of formaldehyde emitted by Kerto LVL falls far below the Class E1 requirement of ≤ 0.100 ppm, and also fulfils the most stringent requirements in the world (≤ 0.030 ppm). The formaldehyde emissions of Kerto LVL are approximately 0.018 ppm.

### FURTHER PROCESSING

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

|                              |   |
|------------------------------|---|
| Sanding                      | Optical sanding, 2 sided only<br>Calibrated sanding, 2 sided only |
| Edge profiling               | Tongue and groove, half-lap                                       |
| Machining                    | Machined to special size and shape, notches and holes             |
| Temporary weather protection | WeatherGuard<br>- up to width 610 mm                              |
| Treatment against mould      | MouldGuard  |
| Treatment against termites   | H2S treatment<br>(Australia only)                                 |

### PACKAGING

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 T-stud Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Kerto LVL T-stud the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Kerto LVL Manual ([metsagroup.com/kertomanual](http://metsagroup.com/kertomanual))
- Kerto LVL for Load Bearing Applications brochure

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Kerto® LVL L-panel combines excellent technical performance with light weight and dimensional stability. 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 minimizes installation time.

Kerto LVL L-panel is made of 3 mm thick light-weight softwood veneers. Approximately 20 % of the veneers are oriented in crosswise direction. The veneers are bonded with weather- and boil-resistant phenol formaldehyde adhesive. L-panel is a light-weight product with good strength properties. Crosswise veneers provide excellent dimensional stability and enhances the transverse strength and stiffness of the panel.

L-panel is an ideal material for light-duty and non-load-bearing applications including wall panels, ceiling panels, furniture, packaging, doors and windows.

### APPLICATIONS

#### Structural applications:

- Components for light-duty or non-load-bearing applications
- Panel product for interior ceilings and floors

#### Industrial applications:

- Doors, windows, furniture and packaging
- Concrete formwork

### MAJOR ADVANTAGES

- **Good strength-to-weight ratio**
- **Large light-weight panel product**
- **Dimensional stability improved against warp and twist**
- **Great workability and quick to install**
- **Easy to fasten, nail and drill**
- **Ensures material efficiency with customised product dimensions**
- **Large panels up to 2 500 mm wide, 20 m long**
- **Up to 10 % better thermal conductivity ( $\lambda$ -value) than standard Kerto LVL**
- **Made of sustainable northern wood and PEFC (PEFC/02-31-03) certified**
- **Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>**

### APPROVALS AND DESIGN PROPERTIES

Kerto LVL L-panel is CE and UKCA marked and the design properties are determined according to standard EN 14374. The design properties given in the Declaration of Performance (DoP) and in the UK Declaration of Conformity (UK DoC) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from [www.metsawood.com/dop](http://www.metsawood.com/dop) and the UK DoC documents can be downloaded from [www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc).

L-panel has also national approval in Germany.

Kerto 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    | 21           | 75           |
| Width/height | 200          | 2 500        |
| Length       | 2 000*       | 25 000**     |

\* Short lengths (< 2000 mm) and widths under 200 mm are available on request.

\*\* For products wider than 1830 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.

### PANEL CONSTRUCTIONS

| THICKNESS (mm) | NUMBER OF PLYS | 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-II         |
| 57             | 19             | II-III-III-III-II     |
| 63             | 21             | II-III-III-III-II     |
| 69             | 23             | II-III-III-III-III-II |
| 75             | 25             | II-III-III-III-III-II |

Special constructions are available on request.

### 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 also fulfils 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 L-panel can be further processed in various ways according to end-use requirements.

|                              |   |
|------------------------------|---|
| Sanding                      | Optical sanding, 2 sided only<br>Calibrated sanding, 2 sided only |
| Edge profiling               | Tongue and groove, half-lap                                       |
| Machining                    | Machined to special size and shape, notches and holes             |
| Temporary weather protection | WeatherGuard<br>- up to width 610 mm                              |
| Treatment against mould      | MouldGuard  |

### PACKAGING

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 L-panel Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Kerto LVL L-panel the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Kerto Manual ([metsagroup.com/kertomanual](http://metsagroup.com/kertomanual))
- Kerto for Load Bearing Applications brochure

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# Kerto® LVL

## Qp-beam



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

Kerto Qp-beam is made of the 3 mm thick strength graded softwood veneers. Two of the veneer layers are oriented in crosswise direction. The veneers are bonded with weather- and boil-resistant phenol formaldehyde adhesive. The cross-bonded veneer layers minimize swelling, cupping and other dimensional changes in the product.

Qp-beam is a stiff, rigid and precise roof beam with excellent strength-to-weight ratio. The use of high and slender beams reduces the need of support grids enabling the construction of spacious rooms, and increases the space for insulation.

### APPLICATIONS

#### Structural applications:

- Beams with greater height for roof constructions
- Other special roof applications

### MAJOR ADVANTAGES

- Dimensionally precise
- Allows stiff beams with greater height
- Designed especially for highly insulated roof constructions
- Excellent strength-to-weight ratio
- Dimensional stability improved against warp and twist
- Easy to design with free Finnwood design software
- Great workability and quick to install
- Easy to fasten, nail and drill
- Ensures material efficiency with customised product dimensions
- Made of sustainable northern wood and PEFC (PEFC/02-31-03) certified
- Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>

### APPROVALS AND DESIGN PROPERTIES

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

Qp-beam has also national approval in Germany.

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

### OVERALL DIMENSIONS

|              | MINIMUM (mm) | MAXIMUM (mm) |
|--------------|--------------|--------------|
| Thickness    | 39           | 75           |
| Width/height | 500          | 2 500        |
| Length       | 2 000*       | 20 000       |

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

### STANDARD TOLERANCES

|              | SIZE           | MINIMUM  | MAXIMUM  |
|--------------|----------------|----------|----------|
| Thickness    | 39 ≤ 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.

### PANEL CONSTRUCTIONS

| THICKNESS (mm) | NUMBER OF PLYS | LAY-UP |
|----------------|----------------|--------|
| 39             | 13             | -    - |
| 42             | 14             | -    - |
| 45             | 15             | -    - |
| 51             | 17             | -    - |
| 57             | 19             | -    - |
| 63             | 21             | -    - |
| 69             | 23             | -    - |
| 75             | 25             | -    - |

Special constructions are available on request.

### 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 also fulfils 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 Qp-beam can be further processed in various ways according to end-use requirements.

|                              |   |
|------------------------------|---|
| Sanding                      | Optical sanding, 2 sided only<br>Calibrated sanding, 2 sided only |
| Machining                    | Machined to special size and shape, notches and holes             |
| Temporary weather protection | WeatherGuard - up to width 610 mm                                 |
| Treatment against mould      | MouldGuard  |

## PACKAGING

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 Qp-beam Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Kerto LVL Qp-beam the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))
- Kerto Manual ([metsagroup.com/kertomanual](http://metsagroup.com/kertomanual))
- Kerto for Load Bearing Applications brochure

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02/2023



Kerto® LVL Kate is strong and rigid roof decking panel which is an excellent substrate for different roofing materials. Kate panels can be also used as horizontal bracing for stabilizing the building. The light-weight and dimensionally stable panels ensure material and cost efficiency due to customised product dimensions and fast installation time.

Kerto LVL Kate is made of cross-bonded 3 mm thick strength graded softwood veneers. The veneers are bonded with weather- and boil-resistant phenol formaldehyde adhesive. Kate is available in thicknesses 15 mm and 18 mm.

The light-weight and dimensionally stable Kate panel is ideal for roof decking. It can be also used as multi-purpose construction panel in various applications for example as bracing panels in walls and roofs. Panels with tongue and grooved edges (2-sided or 4-sided) are easy and fast to install with conventional woodworking tools. Panels located in an unheated space with relative humidity temporarily exceeding 75 % are recommended to be treated with MouldGuard surface treatment to reduce the risk of mould growth and blue stain on product surface.

### APPLICATIONS

#### Structural applications:

- Panel for roof, wall and floor structures
- Bracing panel

### MAJOR ADVANTAGES

- Strong and rigid
- Large light-weight panel product
- Dimensionally stable
- Great workability and quick to install
- Easy to fasten, nail and drill
- Ensures material efficiency with customised product dimensions
- Can be MouldGuard surface treated and edge profiled
- Made of sustainable northern wood and PEFC (PEFC/02-31-03) certified
- Kerto LVL (1 m<sup>3</sup>) contains on average stored carbon equivalent to 783 kg CO<sub>2</sub>

### APPROVALS AND DESIGN PROPERTIES

Kerto LVL Kate is CE and UKCA marked and the design properties are determined according to standard EN 14374. The design properties given in the Declaration of Performance (DoP) and in the UK Declaration of Conformity (UK DoC) are to be used for structural calculations with EN 1995 (Eurocode 5). The DoP documents can be downloaded from [www.metsawood.com/dop](http://www.metsawood.com/dop) and the UK DoC documents can be downloaded from [www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc).

Kerto 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 | 15           | 18           |
| Width     | 1 200        | 2 500        |
| Length    | 2 400        | 3 600        |

Other sizes are available on request.

### STANDARD TOLERANCES

|           | SIZE     | MINIMUM  | MAXIMUM  |
|-----------|----------|----------|----------|
| Thickness | ≤ 27 mm  | - 1.0 mm | + 1.0 mm |
| Width     | < 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.

### PANEL CONSTRUCTIONS

| THICKNESS (mm) | NUMBER OF PLYS | LAY-UP |
|----------------|----------------|--------|
| 15             | 5              | I-I-I  |
| 18             | 6              | I-II-I |

Special constructions are available on request.

### BONDING

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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 also fulfils 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 Kate can be further processed in various ways according to end-use requirements.

|                         |                   |
|-------------------------|-------------------|
| Edge profiling          | Tongue and groove |
| Treatment against mould | MouldGuard        |

### PACKAGING

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 Kate Declaration of Performance ([www.metsawood.com/dop](http://www.metsawood.com/dop))
- Kerto LVL Kate the UK Declaration of Conformity ([www.metsawood.com/ukdoc](http://www.metsawood.com/ukdoc))

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