

Kerto[®] LVL

Q-panel

Half-lap panel



Very thin mass timber solution
for load-bearing and
self-supporting structures

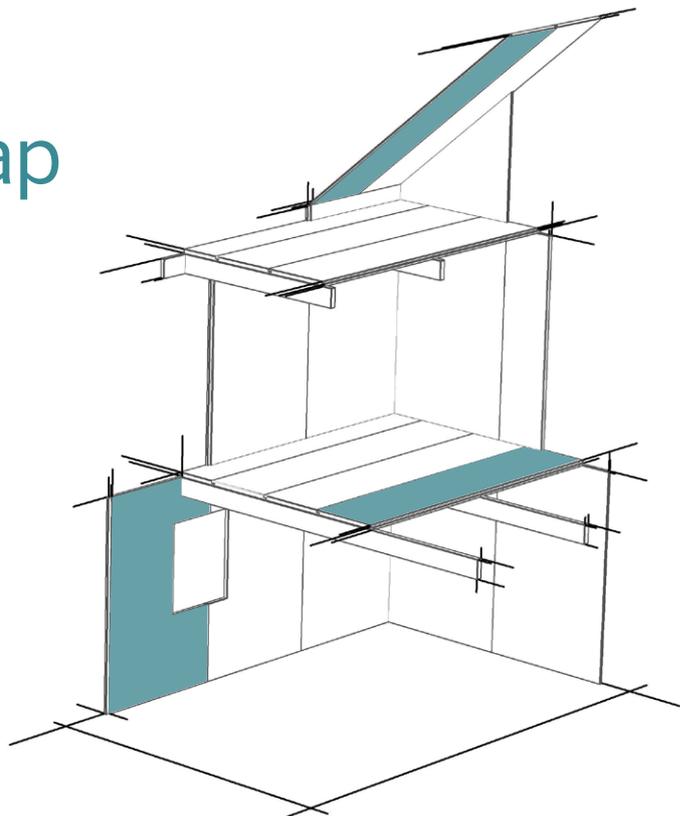
Kerto LVL

Q-panel with half-lap

KERTO LVL Q-PANEL WITH HALF-LAP IS A NEW PANEL SOLUTION FOR ROOFS, FLOORS AND WALLS

Kerto LVL Q-panel with half-lap is a high quality laminated veneer lumber panel with a pre-cut half-lap joint on long edge of the panel. Q-panel is produced by gluing 3-mm-thick softwood veneers together. About a fifth of the veneers are glued crosswise, improving the lateral bending strength and stiffness of the panel, and making it extremely strong and light at the same time.

The ready-to-use half-lap joint makes the panel easy to use in any load-bearing, non-loadbearing or bracing structures. The panel itself is airtight. If the panel joints are sealed, no additional vapour barrier is needed.



The half-lap panel can be used like any other mass timber solution, or can be combined with studs and beams.

DIMENSIONS

- Thickness 39, 45, 51 mm
- Width 600, 800, 1200, 2400 mm
- Length 3, 6, 13 m
- Half-lap joint dimensions: depth 40 mm, height about half of the panel thickness
- Optically sanded on both sides

Other sizes are available on request



Wall and roof panels with half-lap joints.

ADVANTAGES

- Easy to build, lightweight and excellent workability
- Made of Nordic spruce
- Fast to install, with less components (65% less components than in stud frame), saving time and money
- Material-efficient
- If the panel joints are sealed, no additional vapour barrier is needed
- Can be used in frame structures with hard or soft insulation
- Thin mass timber solution enables simple details

DID YOU KNOW?

that wooden structures store carbon? Trees have the unique ability to absorb carbon dioxide from the atmosphere and store it. Wood's ability to store carbon will not disappear when a tree is felled. Using processed wood as a building material will function as a carbon storage for as long as the product made from the wood exists.



Kerto LVL Q-panels with half-lap.

OFFSITE CONSTRUCTION

It doesn't matter what you're building – a single-family house or a multi-storey building – Kerto LVL Q-panel with half-lap makes construction fast, light and green. It gives offsite construction the advantages of mass timber and high-quality prefabrication.

EXAMPLE END-USES WITH 51 mm KERTO LVL Q-PANEL WITH HALF-LAP:

- 2** storeys plus the roof as a standalone mass timber solution
- 2.5** metre span roof element
- 2.2** metre span floor element



Half-lap used in a wall element.



Half-lap used in a modular construction.

Connections



HALF-LAP CONNECTION

- Nails
- Screws
- Amount and distances according to structural design

WALL CORNER OR T-CORNER CONNECTION

- Nails
- Screws
- Amount and distances according structural design

WATER VAPOUR PERMEABILITY

- Water vapour diffusion resistance factor μ
 - dry cup: 200
 - wet cup: 70
- Water vapour diffusion-equivalent air layer thickness s_d
 - dry cup: 7.8 m (39 mm), 9.0 m (45 mm), 10.2 m (51 mm)
 - wet cup: 2.7 m (39 mm), 3.1 m (45 mm), 3.6 m (51 mm)

AIRTIGHTNESS

Kerto LVL Q-panel with half-lap can be used as a part of an airtight system. Joints are easy to seal with adhesive tape or other approved sealant.

DESIGN VALUES

Structural values for Kerto LVL Q-panel can be found from the [Declaration of Performance](http://www.metsawood.com/dop) (www.metsawood.com/dop).

INSULATION

Any insulation material can be used with Q-panel, e.g. mineral wool, wood fibre or hemp.



T-corner connection



Q-panel with half-lap with insulation and adhesive tape.

Examples



Kokoon, a project by Aalto University Wood Program, Finland. Read more about the case at www.metsawood.com.



Verksbyen, a sustainable residential area by Arca Nova, Norway. Read more about the case at www.metsawood.com.

Examples



Kerto LVL Q-panel with half-lap can be used for walls in single-family homes, as well as in multi-storey buildings.



Kerto LVL Q-panel with half-lap used in roof panelling.

Surface quality



Kerto LVL surface quality. Metsä Wood provides the half-lap panels sanded on both sides.

Kerto LVL is primarily produced for structural applications. A rugged and industrial nature is reflected in the surface.

DID YOU KNOW?

Kerto LVL is easy to fasten, staple, screw, nail and drill using conventional woodworking tools.





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:
www.metsawood.com

