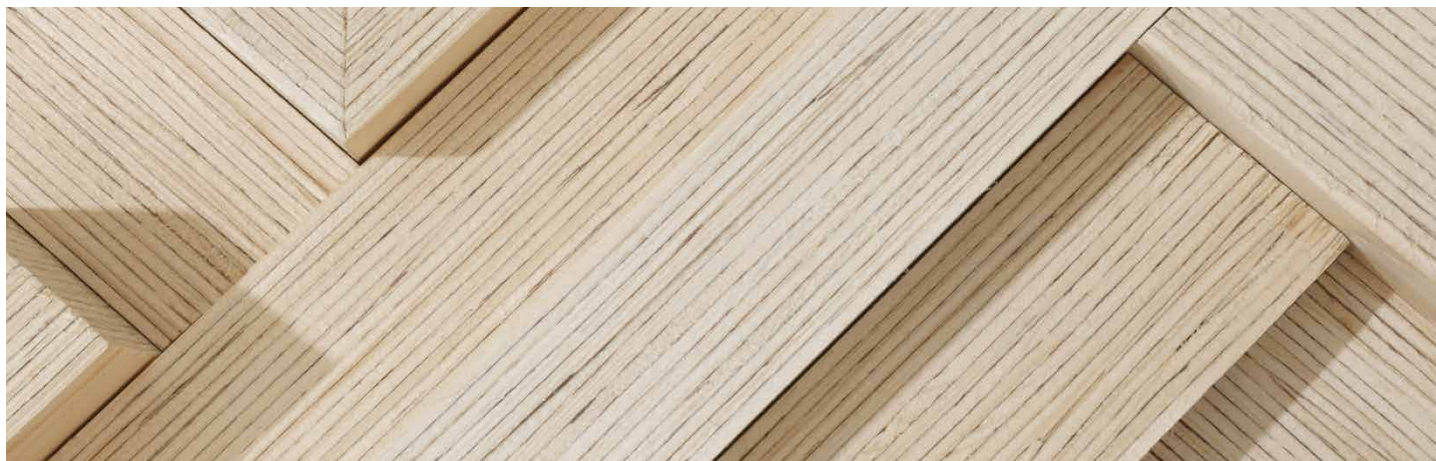


Kerto® LVL



Kerto® LVL is primarily used as a structural load-bearing product for non-visible applications. Therefore, the sorting of veneers in production is based mainly on the strength properties of the veneers, not on their visual properties. Kerto LVL products are made of Nordic softwood veneers. The main wood raw material is Nordic spruce. Small amount of Nordic pine is used. The veneers are rotary peeled from logs, and therefore knots and natural colour variations are always present.

The wood raw material used in Kerto LVL production has natural structure and patterns which are visible on the product surface. An inherent characteristic of spruce is that the branches are located as star like clusters in the stem (knot ringlet), and therefore frequent knots are present in the peeled veneers.

During the veneer production process, small peeling cracks are formed in the veneers. The cracks may become visible during swelling or shrinking caused by moisture variations. The surface veneers are separated from other veneers in visual grading to ensure that the veneers do not contain pitch pockets, large cracks or bark.

Due to the continuous production of Kerto LVL billets, the scarf-joints of the face veneers are visible. On the front side, the scarf-joints are bonded with light coloured adhesive. On the reverse side, standard dark brown Kerto LVL adhesive is visible on the scarf-joints.

Face veneers

Face veneers used in Kerto LVL products, excluding T-stud, meet the requirements given in Table 1. Distance between the scarfjoints of face veneers is 1,9 m or 2,5 m.

TABLE 1. PERMISSIBLE DEFECTS ON STANDARD FACE VENEERS

DEFECT	MAXIMUM NUMBER OF DEFECTS/m ²	MAXIMUM SIZE
Sound knots, Ø mm	not limited	40
Dry / dead knots, Ø mm	15	30
Knot holes, Ø mm	4	30
Pitch pockets, Ø mm	2	40
Other defects (bark, inner bark...), Ø mm	3	35
Splits, (width*length) mm	3	3*800
Rot, blue stain, insect defects	not allowed	

Under 8 mm defects are not taken into account.

Front side: light colour melamine adhesive is used in the face veneer scarf-joints. Reverse side: dark brown phenol adhesive is used in the face veneer scarf-joints (same adhesive as in the gluelines).

Note! In face veneers used in T-stud, rot is not allowed, but other above-mentioned defects are allowed without limitations.

Sanding

Kerto LVL products can be sanded optically or calibrated to target thickness. Product label disappears from the surface when sanded. If the surface is to remain visible in the finished structure, optical sanding is recommended.

Optical sanding

Visual appearance of the Kerto LVL products can be improved by optical sanding. Optical sanding is always two-sided and it cleans and smoothens the surface by removing e.g. glue stains. The veneer scarf-joints on the front side of the product are colourless and on the reverse side dark brown due to the adhesive colour. This should be taken into account in visible applications.

Optical sanding reduces the original nominal thickness of the product by approximately 2 mm. Structural design shall be made according to the sanded nominal thickness.

Calibrated sanding

Calibrated sanding (thickness calibration) is always two-sided according to target thickness. In calibrated sanding the surface veneers are allowed to be sanded through revealing a dark glue line, see figure 6. Calibrated products are not recommended for visible applications without an opaque coating.

In calibrated sanding the original nominal thickness is reduced by approximately 3 mm. Thickness tolerance of the calibrated product is ± 0.5 mm from the target thickness. Structural design shall be made according to the sanded nominal thickness.

Light calibration sanding

Light calibration sanding is a two sided sanding where the \pm -tolerances are sanded away. It can leave the surface partially unsanded (figure 7) but ensures that the thickness tolerance is reduced to the negative side. E.g. 45 mm Kerto LVL Q panel light calibrating gives a thickness tolerance $+0/-2$ mm.

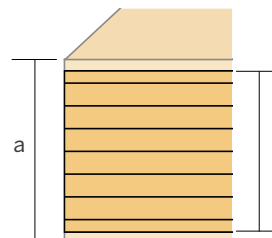
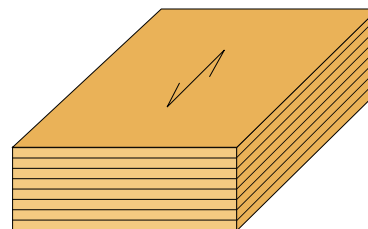


Figure 1. Illustration of nominal thicknesses
a = Nominal thickness
b = Sanded nominal thickness



Figure 2. Front side, unsanded, light colour glue in scarf-joints



Figure 3. Reverse side, unsanded, dark brown glue in scarf-joints



Figure 4. Front side, optically sanded, light colour glue in scarf-joints



Figure 5. Reverse side, optically sanded, dark brown glue in scarf-joints



Figure 6. Front side, sanded through



Figure 7. Front side, partially unsanded

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