

Panel Surface Quality

Wood as a natural material is highly varied in its structure and has many natural characteristics. Often such characteristics can impair its visual appearance. Common visual characteristics are knots, annual rings and fissures.

The surface appearance of KLH cross-laminated timber panels is dependent on the surface type specified:

- Domestic Visual Quality (Wsi)
- Industrial Visual Quality (Isi)
- Non-Visual Quality (Nsi)

and the outer lamella direction i.e. TT or TL.

The surface appearance of Wsi panels is of sufficient quality to be left exposed internally, should it be required, but the Nsi is manufactured as a non-visual panel which should not be left exposed. As standard, Wsi and Isi visual surface finishes are only available on one side.

Domestic Visual Quality (Wsi)

For TT panels the outer lamella are perpendicular to the manufactured panel length and are generally used as wall elements. For TL panels the outer lamella are parallel to the manufactured panel length and are generally used as floor and roof elements.

Depending on the orientation of the outer lamella (TT or TL panels), the outer lamella may be finger-jointed. The width of the boards in the outer lamella of TL panels may vary from 80 to 120mm. The outer lamella of TT panels are formed from boards < 80 mm wide which are then edge glued to form boards up to 1200 mm wide. The outer lamella of TT and TL panels are visually selected to have minimum defects.

The surface lamella are planed and sanded to achieve appearance class A/B in accordance with BS EN 13017-1:2001 Table 1.

At a moisture content of $12\% \pm 2\%$ a maximum gap width of 2 mm between the lamella is permissible. The edges of all Wsi panels are chamfered as standard.

Industrial Visual Quality (Isi)

For TT panels the outer lamella are perpendicular to the manufactured panel length and are generally used as wall elements. For TL panels the outer lamella are parallel to the manufactured panel length and are generally used as floor and roof elements.

Depending on orientation of the outer lamella (TT or TL panels), the outer lamella may be fingerjointed. The outer lamella width may vary from 80 to 240mm.

The surface lamella are planed and lightly sanded to achieve appearance class B in accordance with BS EN 13017-1:2001 Table 1.

At a moisture content of $12\% \pm 2\%$ a maximum gap width of 4mm between the lamella is permissible.

Non-Visual Quality (Nsi)

There is no appearance class in accordance with BS EN 13017-1:2001 Table 1. Boards are C24 (10% C16 permissible) in accordance with BS EN 14081-1:2005 Table 1.

Nsi panels will not be provided for visual surfaces unless requested by the client on the understanding that KLH UK will not accept any liability for visual appearance of Nsi panels.

The definition of surface finishes above are subjective and may lead to widely differing interpretations on what constitutes an acceptable finish. Reference panels demonstrating surface finishes Wsi, Isi and Nsi are available on request from our London office, or can be viewed by appointment.