
SURFACES, RANGES OF APPLICATION & QUALITY DEFINITIONS

KLH solid cross-laminated timber boards are available in the qualities ‚non-visible‘ (NSI), ‚visible industrial‘ (ISI) and ‚living space‘ (WSI), depending on application and use. Special surfaces and / or other wood types are available on request.

The appearance of the wood quality on the surface is classified according to EN13017-1 (table 1) and, as can be seen in the table on page 3, is based on the following features: wood type mixture, appearance and colour, knots, plugs, resin pockets, repaired resin pockets, bark pockets, cracks, pith, compression wood, insect infestation, discolouration, decay, sapwood, quality of surface finish and surface post-processing.

The quality definitions listed below for visual quality surfaces generally refer to the single-sided visible surface. Double-sided visible surfaces produced in the same and / or different surfaces (e.g. ISI / WSI – one side industrial quality, one side living space quality) are available on request and following a consultation.

Please note that minor damage may result from the manipulation of elements during the double-sided production of visible surfaces.

NON-VISIBLE QUALITY in spruce (NSI)

KLH solid cross-laminated timber boards in non-visible quality are suitable for use as load-bearing components which are generally panelled following assembly. There are therefore no special requirements on the surface appearance. Wood grading is carried out on the basis of strength class C 24 with a low proportion of C 18.

VISIBLE INDUSTRIAL QUALITY in spruce, single-sided (ISI)

KLH solid cross-laminated timber boards in visible industrial quality are suitable for industrial buildings with low requirements on surfaces (for example as ceiling elements in industrial buildings). Visible industrial quality is not suitable for visible surfaces in residential buildings. The surface appearance corresponds to appearance class B, in accordance with EN 13017-1. The lamellae are sometimes finger-jointed, depending on the orientation of the covering layer (DL/DQ). The surface is planed, machined and selectively lightly smoothed; occasional rough spots and chunking may appear as a result of planing. If treating the surface with paint, varnish, etc., we recommend the use of living space quality. The maximum joint width for a wood humidity of 12% (+ / - 2%) is 4mm. The width of individual lamellae is decided at the manufacturer’s discretion.

IMPORTANT NOTE

We strongly advise against using visible industrial quality instead of living space quality for visible surfaces in living areas for cost reasons – please inform all those involved in the project and pass on the quality definition if necessary.

A small proportion of the costs for any reworking should be taken into account in the assembly price.

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VISIBLE INDUSTRIAL QUALITY in spruce, fully smoothed, single-sided (ISI, smoothed)

KLH solid cross-laminated timber boards in visible industrial quality are suitable for industrial buildings with low requirements on surfaces (for example as ceiling elements in industrial buildings). Visible industrial quality is not suitable for visible surfaces in residential buildings. The surface appearance corresponds to appearance class B, in accordance with EN 13017-1. The lamellae are sometimes finger-jointed, depending on the orientation of the covering layer (DL/DQ). The surface is planed and fully smoothed. If treating the surface with paint, varnish, etc., we recommend the use of living space quality. The maximum joint width for a wood humidity of 12% (+ / - 2%) is 4mm. The width of individual lamellae is decided at the manufacturer's discretion.

IMPORTANT NOTE

We strongly advise against using visible industrial quality instead of living space quality for visible surfaces in living areas for cost reasons – please inform all those involved in the project and pass on the quality definition if necessary.

A small proportion of the costs for any reworking should be taken into account in the assembly price.

QUALITY FOR LIVING SPACE in spruce, single-sided (WSI)

KLH solid cross-laminated timber boards in living space quality are suitable for use as permanently visible surfaces in residential buildings.

For DQ boards in living space quality, edge-glued laminated single-ply boards are used. For DL boards, breadthways-glued, finger-jointed lamellae are used. The surface is planed and smoothed. The surface appearance corresponds to appearance class AB, in accordance with EN 13017-1. The maximum joint width for a wood humidity of 12% (+ / - 2%) is 2mm. All transitions for widthways board joints are bevelled during the cutting process.

IMPORTANT NOTE

Elements which are produced in living space quality require special care – in this context, please also note the user information for the installation of visible surfaces, available at www.klh.at.

A small proportion of the costs for any reworking should be taken into account in the assembly price.

QUALITY FOR LIVING SPACE in spruce, brushed surface, single-sided production (WSI, brushed)

KLH solid cross-laminated timber boards in living space quality are suitable for use as permanently visible surfaces in residential buildings.

For DQ boards in living space quality, edge-glued laminated single-ply boards are used. For DL boards, breadthways-glued, finger-jointed lamellae are used. The surface is planed and brushed. The surface appearance corresponds to appearance class AB, in accordance with EN 13017-1. The maximum joint width for a wood humidity of 12% (+ / - 2%) is 2mm. All transitions for widthways board joints are bevelled during the cutting process.

IMPORTANT NOTE

Elements which are produced in living space quality require special care – in this context, please also note the user information for the installation of visible surfaces, available at www.klh.at.

A small proportion of the costs for any reworking should be taken into account in the assembly price.

SURFACE QUALITY OF KLH SOLID CROSS-LAMINATED TIMBER BOARDS ACCORDING TO EN 13017 1

FEATURES	GRADES		
	A	B	C
Wood type mixture	Not permitted	Not permitted; in case of spruce, 10% fir permitted	Permitted
Appearance and colour	Well-balanced colour and texture	Largely balanced colour and texture	No specifications
Knots and black knots	Healthy, intergrown knots in spruce up to 40mm diameter permitted; individual black knots permitted	Healthy, intergrown knots and individual black knots permitted	Permitted
Plugs	Permitted	Permitted	Permitted
Resin pockets	Occasional, up to 3mm x 40mm permitted	Occasional, up to 5mm x 60mm permitted	Permitted
Repaired resin pockets	Permitted	Permitted	Permitted
Bark pockets	Not permitted	Occasional pockets permitted	Permitted
Cracks	Occasional surface cracks permitted	Occasional cracks permitted	Occasional cracks permitted
Pith	Occasional piths up to a length of 400 mm permitted	Permitted	Permitted
Compression wood	Occasional occurrences permitted	Permitted	Permitted
Insect infestation	Not permitted	Not permitted	Occasional small holes of non-active larvae permitted
Discolouration (blue stain)	Not permitted	Slight discolouration permitted	Permitted
Decay	Not permitted	Not permitted	Not permitted
Sapwood	Permitted in pine and larch, narrow strips up to 20% of lamella width permitted	Permitted	Permitted
Quality of surface finish	Occasional small faults permitted	Occasional faults permitted	No specifications
Surface post-processing	Permitted	Permitted	Permitted