

# Surface qualities of glued laminated timber



Criteria <sup>1</sup>		Industrial quality <i>Def: Studiengemeinschaft</i>	Visible quality <i>Def: Studiengemeinschaft</i>	Nature quality <i>Def: HESS TIMBER</i>	Special quality <i>Def: HESS TIMBER</i>
1	Firmly grown knots <sup>2,3</sup>	Permitted	Permitted	Permitted	acc. customer requirement
2	Fallen and loose knots <sup>2,3</sup>	Permitted	Up to $\varnothing < 20$ mm permitted <sup>4</sup> , $\varnothing > 20$ mm are to be replaced in the works <sup>4</sup>	Permitted	acc. customer requirement
3	Resin gall <sup>3,5</sup>	Permitted	Resin galls are permitted up to 5 mm	Permitted	acc. customer requirement
4	Knots and faulty points improved by means of knot hole plugs or „ships“ <sup>3</sup>	Not necessary	Permitted	Not necessary	acc. customer requirement
5	Knots and resin galls improved by means of filler compound <sup>3</sup>	Not necessary	Permitted <sup>6</sup>	Not necessary	acc. customer requirement
6	Insect attack <sup>3</sup>	Permitted are burrows up to 2 mm	Permitted are burrows up to 2 mm	Permitted are burrows up to 2 mm	acc. customer requirement
7	Pith	Permitted	Permitted	Permitted	acc. customer requirement
8	Cracks caused by shrinking <sup>3,5,7</sup>	No limit	Up to 4 mm	No limit	acc. customer requirement
9	Discolorations as a result of blue stain, red and brown nail solid stripes <sup>5</sup>	No limit	Up to 10 % of the visible surface of the whole construction component	Up to 10 % of the visible surface of the whole construction component	acc. customer requirement
10	Mould <sup>5</sup>	Not permitted	Not permitted	Not permitted	acc. customer requirement
11	Contamination of the surface <sup>5</sup>	Permitted	Not permitted	Not permitted	acc. customer requirement
12	Distance between fingerjoints	No limit	No limit	No limit	acc. customer requirement
13	Surface	Levelled out	Planed and camfered chatter permitted up to a depth of 1 mm	Planed and camfered	acc. customer requirement

## Annotation:

- 1) Deviations from the limit values defined in the following in lines 2, 3, 6-9, 12, 13 are to be tolerated to the following extent: maximum of three deviations/m<sup>2</sup> visible surface for the quality of vision, maximum of one deviation/m<sup>2</sup> visible surface for selection quality.
- 2) Permissible knot size according to DIN 4074: 2012
- 3) Without limitation of the number
- 4) Measurement of the diameter of the knots analogue to the measurement of the diameter of individual knots for scantlings according to DIN 4074-1: 2012, 5.1.2.1.
- 5) Delivery condition
- 6) Filler compound which can be painted over is to be demanded explicitly.
- 7) As in all constructional solid wood products cracks can be present. The depth of the crack, measured with a 0.1 mm thick feeler gauge and independent of the quality of the surface for construction components, may be, for members not being subject to tensile-stresses perpendicular to the grain up to 1/6 of the width of the construction component, for members being subject to tensile-stresses perpendicular to the grain, up to 1/8 of the width of the component from each side. With deeper cracks the non-critical state should be checked by an expert.

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1	Firmly grown knots Fallen and loose knots				acc. customer requirement
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4	Discolorations as a result of blue stain, red and brown nail solid stripes				acc. customer requirement

**Annotation:**

1) These are examples for surface qualities. Due to natural variation of the material wood, it is possible to get variations because of material and season.