Surface qualities best wood **CLT, CLT BOX**

	Criteria	Local spruce industrial quality	Scandinavian spruce visual quality	Local silver fir PREMIUM/RIFT
1	Lamella width	≤ 240 mm	≤ 140 mm	≤ 140 mm
2	Wood moisture	max. 15 % at delivery	max. 15 % at delivery	max. 15 % at delivery
3	Wood species mixture	spruce/fir	not permissible	not permissible
4	Bonding	occasional open joints up to max. 3 mm width permissible	occasional open joints up to max. 1 mm width permissible	occasional open joints up to max. 1 mm width permissible
5	Blue stain	permissible	not permissible	not permissible
6	Discolouration (brownness etc.)	permissible	not permissible	not permissible
7	Resin pockets	permissible	no clusters, max. 3 x 50 mm	no clusters, max. 3 x 50 mm
8	Bark ingrowths	permissible	not permissible	not permissible
9	Drying cracks	permissible	permissible ≤ 1.5 mm	permissible ≤ 1.5 mm
10	Core – pith	permissible	allowed if occasional	not permissible
11	Insect infestation	burrows up to 2 mm allowed	not permissible	not permissible
12	Branches – healthy	permissible	permissible	ø max. 25 mm
13	Branches – black	permissible	ø max. 15 mm	ø max. 15 mm
14	Branches – hole	permissible	not permissible	not permissible
15	Wing branches	permissible	permissible	ø < 15 mm up to the entire lamella width permitted, ø 15 – 20 mm up to 1/2 lamella width permitted, max. 1 x per 1 m^2
16	Wane	max. 2 x 500 mm	not permissible	not permissible
17	Surface	planed	sanded	sanded
18	Quality of the gluing of the narrow sides and of the end faces	occasional imperfections permissible	occasional imperfections permissible	occasional imperfections permissible
19	Surface cosmetics with correction of knotholes, Lamello, strips, ...	permissible	permissible	permissible

Surface qualities best wood **CLT XL**

	Criteria	Local spruce Industrial quality	Local spruce visual industrial quality	Local spruce visual quality	Local spruce PREMIUM/RIFT
1	Lamella width	≤ 240 mm	≤ 240 mm	≤ 140 mm	≤ 140 mm
2	Wood moisture	max. 15 % at delivery	max. 15 % at delivery	max. 15 % at delivery	max. 15 % at delivery
3	Wood species mixture	spruce/fir	spruce/fir	not permissible	not permissible
4	Bonding	occasional open joints up to max. 3 mm width permissible	occasional open joints up to max. 2 mm width permissible	occasional open joints up to max. 1 mm width permissible	occasional open joints up to max. 1 mm width permissible
5	Blue stain	permissible	slight discolourations permissible	not permissible	not permissible
6	Discolouration (brownness etc.)	permissible	slight discolourations permissible	not permissible	not permissible
7	Resin pockets	permissible	permissible	no cluster, max. 3 x 50mm max. 3 resin pockets per m^2	no cluster, max. 3 x 50mm max. 3 resin pockets per m^2
8	Bark ingrowths	permissible	permissible	not permissible	not permissible
9	Drying cracks	permissible	permissible	permissible ≤ 1.5 mm	permissible ≤ 1.5 mm
10	Core – pith	permissible	permissible	permissible	not permissible
11	Insect infestation	burrows up to 2 mm allowed	not permissible	not permissible	not permissible
12	Branches – healthy	permissible	permissible	permissible	ø max. 25 mm
13	Branches – black	permissible	permissible	ø max. 15 mm	ø max. 15 mm
14	Branches – hole	permissible	permissible up to ø max. 30 mm	not permissible	not permissible
15	Wing branches	permissible	permissible	ø < 15 mm up to the entire lamella width permitted, ø 15 – 25 mm up to 2/3 lamella width permitted, max. 2 x per 1 m^2	ø < 15 mm up to the entire lamella width permitted, ø 15 – 20 mm up to 1/2 lamella width permitted, max. 1 x per 1 m^2
16	Wane	max. 2 x 500 mm	not permissible	not permissible	not permissible
17	Surface	calibrated	sanded	sanded	sanded
18	Quality of the gluing of the narrow sides and of the end faces	occasional imperfections permissible	occasional imperfections permissible	occasional imperfections permissible	occasional imperfections permissible
19	Surface cosmetics with correction of knotholes, Lamello, strips, ...	permissible	permissible	permissible	permissible

Surface qualities best wood **GLULAM, DUO, TRIO, CEILING PLANKS and PLANKS FOR LOG HOUSES**

	Criteria	Local Industrial quality	Local visual quality	Scandinavian visual quality
1	Firm knots	permissible [2,3,4]	permissible [2,3,4]	permissible [2,3,4]
2	Knots that have fallen out	permissible [2,3,4]	Ø ≤ 35 mm are permissible [2,3,4] Ø > 35 mm are not permissible [2,3,4]	Ø ≤ 35 mm are permissible [2,3,4] Ø > 35 mm are not permissible [2,3,4]
3	Resin pockets	permissible [3]	permissible [3]	permissible up to a width of 5 mm [3]
4	Knots and imperfections improved by means of knot hole plugs or "ships"	permissible [3]	permissible [3]	permissible [3]
5	Knots, edges, and resin pockets improved using filler compounds	permissible [3.6]	permissible [3.6]	permissible [3.6]
6	Insect infestation	burrows up to 2 mm are permissible [3]	burrows up to 2 mm are permissible [3]	not permissible
7	Pith	permissible [3]	permissible [3]	permissible if occasional
8	Width of shrinkage cracks [3,5,7]	no limit	up to 5 mm	up to 4 mm
9	Discolouration as a result of blue stain and red/brown nail-resistant streaks	permissible	permissible if occasional	permissible if occasional
10	Mould infestation	not permissible [5]	not permissible [5]	not permissible [5]
11	Soiling	not permissible [5]	not permissible [5]	not permissible [5]
12	Wane	up to 10 mm depth and 10 mm width [3]	not permissible	not permissible
13	Lamellae partially not planed	isolated lamellae, depth up to 10 mm permissible	not permissible	not permissible
14	Processing of the surface	planed and chamfered, plane knocks up to 1 mm in depth permissible, places not planed up to 2 mm permissible	planed and chamfered, plane knocks up to 1 mm in depth permissible	planed and chamfered, plane knocks up to 0.5 mm in depth permissible

[1] Deviations from the limits defined below in the lines 2,3,6–9,13 are to be tolerated in the following scope: Maximum three deviations/m² visible surface for the visual quality, maximum one deviation/m² visible surface for the scandinavian quality.
[2] Permissible knot size according to DIN 4074.
[3] No limit on the number.
[4] Measurement of the knot diameter analogous to the measurement of the diameters of individual knots with scantlings according to DIN 4074-1: 2021-06
[5] As-delivered condition
[6] Filler compounds that can be painted over are to be explicitly requested.
[7] Regardless of the surface quality, the crack depth in elements not subjected to transverse stress may be up to 1/6 of the element width, and up to 1/8 of the element width of each side.

Solid structural timber (KVH®)

Sort keys

Technical regulation: DIN EN 15497:2014 Sort criterion	Demands on solid structural timber for industrial purposes (KVH NSI)	Comments
Wane	measured diagonally a max. of 10 % minor cross section side	increased demands compared to DIN 4074-1
Knots	A max. 2/5	equal to sorting class S 10
Condition of knots	not exceeding 70 mm	acc. to DIN 4074-1 permitted sorting characteristic for KVH
Annual ring width	up to 6 mm	equal to sorting class S 10 according to DIN 4074-1
Slope of the grain	up to 120 mm/m	equal to sorting class S 10 according to DIN 4074-1
Radial shrinkage cracks (= seasoning cracks)	permissible	increased demands compared to DIN 4074-1 for KVH-SI
Lightning/frost cracks, ring peeling	not permissible	Equal to sorting class S10 according to DIN 4074-1
Discolouration: Blue stain	permissible	increased demands compared to DIN 4074-1 for KVH-SI
Nail-holding brown and red stripes	up to 2/5 of the cross section of the surface are permitted	increased demands compared to DIN 4074-1 for KVH-SI
Red and white rot	not permissible	
Compression wood	up to 2/5 of the cross section or the surface are permitted	equal to sorting class S 10 according to DIN 4074-1
Insect damages	burrows up to 2 mm Ø of fresh timber insects are permitted	increased demands compared to DIN 4074-1 for KVH-SI
Mistletoe infestation	not permissible	equal to sorting class S 10 according to DIN 4074-1
Bending (longitudinal bending, twist)	Split-heart cutting max. 8 mm/2 m	increased demands compared to DIN 4074-1 for split-heart cut timber
Wood moisture	max. 18 %	additional sorting characteristic for KVH
Cutting class	split-heart	additional sorting characteristic for KVH
Dimensional stability of the cross section	± 1 mm	additional sorting characteristic for KVH
Bark pocket		additional sorting characteristic for KVH-SI
Resin pockets		additional sorting characteristic for KVH-SI
Surface condition	planed and chamfered	additional sorting characteristic for KVH
Conditioning of the ends	rectangular cross-cut	additional sorting characteristic for KVH