

THERMALLY MODIFIED WOOD MATERIAL CLASSIFICATION GUIDELINES

The classification manual defines the quality requirements for thermally modified wood under the following conditions (based on European Standard EN 1611-1):

- Wood species: thermo-pine / thermo-spruce
- Planed profile dimensions: thickness 16–42 mm / width 90–140 mm
- Assessment according to “Better Face” requirements with 4-side evaluation

Content evaluation principles:

- AB class = 60% A class + 40% B class
- C class: “Unlimited” positions are acceptable for the worst 2 m of length, while 30–50% of the volume may be considered higher grade

QUALITY GUIDELINES	A CLASS	B CLASS	C CLASS	COMMENTS
Live knots	Visual assessment		Unlimited	Knots: A =4 / B=6 / C = unlimited
Dead knots, partially embedded knots	Max Ø 20 mm	Max Ø 30 mm	Max Ø 50 mm	
Fallen-out knots	Not allowed	Allowed if the profile is covered on the edge. Example: F-1	Max Ø 50 mm	
Edge knots	Max Ø 20 mm	Max Ø 30 mm	Unlimited	Knots: A =2 / B=4 / C = unlimited
Black knots	Not allowed	Max Ø 30 mm	Max Ø 50 mm	
Small knot clusters	Allowed		Unlimited	
Long knots	Max Ø =1/2 from the board width	Max Ø = 2/3 from the board width	Unlimited	
Knot cracks	Max L = 20 mm	Max L = 50 mm	Unlimited	Crack width ≤ 2 mm
Surface cracks	Max L = 100 mm	Max L = 150 mm	Unlimited	Crack width ≤ 2 mm

QUALITY GUIDELINES	A CLASS	B CLASS	C CLASS	COMMENTS
End cracks	Max L = board width	Max L = 1,5x board width	Max L = 2x board width	
Resin pockets	Max L = 100 mm (300 mm ²)	Max L = 200 mm (600 mm ²)	Unlimited	
Bark	Not allowed			
Rot	Not allowed			
Insect holes	Not allowed			
Mechanical defects	Not allowed		Unlimited	
Damage, streaks	Not allowed		Unlimited	
Planer roller marks	Max L = the board width		Unlimited	
Pith	Allowed		Unlimited	2 ex log;4 ex log

Other definitions and explanations:

- Live knots ≤ 10 mm are not considered (unless they are dead or loose knots)
- For the “Better Face”, a compensation rule can be applied: if the knot diameter is smaller than the allowed maximum, a greater number of knots is permitted.

Permissible physical deviations of profiles:

- Bow: ≤ 2 mm per linear meter
- Cup: $\leq 1\%$ of profile width
- Tolerances:
 - Thickness ± 0.5 mm ; Width ± 1.0 mm ; Length ± 2.0 mm (fixed lengths only)