

GRADING RULES

Spruce

Wood for you

MADE IN LEMPÄÄLÄ, FINLAND

This is how we sort

Wood is a natural material, and no two boards are exactly alike. That's where its charm lies – but it also means that every board needs a pair of eyes to decide what quality class it belongs to. We'll go over the following principles, so you know exactly what you're ordering.

1. We sort the spruce into three quality classes: **VK**, **TK** and **OK**.
2. Sorting is always done according to **the better side** – that is, the surface that remains visible.
3. In sauna benches, the "better side" consists of **three visible sides**: the top and both edges.
4. In interior and exterior cladding, the "better side" is the **visible surface** remaining in the room.
5. The final quality is determined by the criteria presented on the following pages.

VK quality

Our most demanding quality class for spruce. It allows only minimal and well-defined knots and small natural wood properties. The end result has a well-groomed appearance and is suitable for sites where the visual quality of the surface is of great importance.

OK quality

A natural and lively timber class that allows for more abundant knots and other characteristics of wood. Well suited for sites where the authentic and more rustic appearance of wood is appreciated.

TK quality

A livelier option. It is a good and natural-looking class of timber that allows for more knots and the living qualities of the wood. Ideal for applications where you want to combine the natural look of wood with good overall quality.

DID YOU KNOW?

Spruce is a popular sauna material due to its light tone, calm grain pattern and pleasant feel. When treated correctly, spruce withstands the varying heat and humidity conditions of the sauna well and creates a natural, soft look in the space.

Types of defects and their permissibility

On the next page, we will go through all the types of defects that are examined in grading. The table tells you separately what is allowed on the visible face of the board and what is allowed on the back. The back face always remains inside the structure, so that's where we allow more defects. The details and natural properties of the surface are assessed from a viewing distance of about 1.5 meters. At least 95% of the production batch meets the quality requirements specified in the table. Wood is a natural material, so its appearance may change after installation. Wood responds to its surrounding environment, and changes may occur over time that are not covered by the grading rules. The grading rules apply to the quality assessment carried out during production.



The red lines in the image indicate the area considered the visible face. In a piece planed all round (PAR), the working surface is the better side of the piece.



Spruce interior cladding

Feature or defect	Quality class: VK	
	Visible face	Back face
Knots	Allowed $\leq 2 \times 15$ mm and $\leq 3 \times 10$ mm	Allowed
Spike knots	Not allowed	Allowed
Split knots	A maximum of one 8 mm split knot is allowed over a distance of two meters. Split knots are not allowed at the edges of the board's face.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Not allowed	Allowed
Black knots	Allowed	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed when solid	Allowed
Broken edge knots	Up to 1×8 mm over a distance of two meters	Allowed
Canker and rind gall	Not allowed	Allowed
Resin pockets	Resin pockets with a total length of up to 40 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 20 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 15% of the board length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Not allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 30% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.



Feature or defect	Quality class: TK	
	Visible face	Back face
Knots	Allowed ≤ 30% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	A maximum of one 8 mm split knot is allowed over a distance of two meters. Split knots are not allowed at the edges of the board's face.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Less than half the knot diameter is allowed	Allowed
Black knots	Allowed ≤ 20% of the board width	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed	Allowed
Broken edge knots	Up to 1 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Not allowed	Allowed
Resin pockets	Resin pockets with a total length of up to 150 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 60 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 25% of the board's length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 50% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.



Feature or defect	Quality class: OK	
	Visible face	Back face
Knots	Allowed ≤ 50% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	A maximum of two split knots of 8 mm is allowed over a distance of two meters, and one at the edge of the face.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Less than half the knot diameter is allowed	Allowed
Black knots	Allowed ≤ 20% of the board width	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed	Allowed
Broken edge knots	Up to 2 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Canker and rind gall up to 15 mm are allowed and are included in the knot total.	Allowed
Resin pockets	Resin pockets with a total length of up to 150 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 60 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 25% of the board's length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Not allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 50% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.



Spruce bench boards

Feature or defect	Quality class: TK	
	Visible face	Back face
Knots	Allowed ≤ 30% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	A maximum of one 8 mm split knot is allowed over a distance of two meters. Split knots are not allowed at the edges of the board's face.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Less than half the knot diameter is allowed	Allowed
Black knots	Allowed ≤ 20% of the board width	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed	Allowed
Broken edge knots	Up to 1 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Not allowed.	Allowed
Resin pockets	Resin pockets with a total length of up to 150 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 60 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 25% of the board's length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 50% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.



Feature or defect	Quality class: OK	
	Visible face	Back face
Knots	Allowed $\leq 50\%$ of the board width	Allowed
Spike knots	Allowed $\leq 50\%$ of the board width	Allowed
Split knots	A maximum of one 8 mm split knot is allowed over a distance of two meters. Split knots are not allowed at the edges of the board's face.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Less than half the knot diameter is allowed	Allowed
Black knots	Allowed $\leq 20\%$ of the board width	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed	Allowed
Broken edge knots	Up to 2 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Canker and rind gall up to 15 mm are allowed and are included in the knot total.	Allowed
Resin pockets	Resin pockets with a total length of up to 150 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 60 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 25% of the board's length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 50% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.



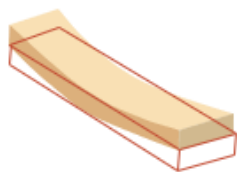
Spruce exterior cladding

Feature or defect	Quality class: Exterior cladding	
	Visible face	Back face
Knots	Allowed ≤ 50% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	A maximum of three split knots of 10 mm is allowed over a distance of two meters.	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Less than half the knot diameter is allowed	Allowed
Black knots	Allowed ≤ 20% of the board width	Allowed
Dead knots	Solid knots are allowed	Allowed
Tearout around knots	Allowed	Allowed
Pin knots	Allowed	Allowed
Arris knots	Allowed	Allowed
Broken edge knots	Up to 2 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	A maximum of one canker or rind gall 6 mm wide and 100 mm long is allowed over a distance of one meter. Allowed in 5% of the exterior cladding batch.	Allowed
Resin pockets	Resin pockets with a total length of up to 200 mm over a distance of one meter are allowed. The length of a single resin pocket may not exceed 100 mm. Penetrating resin pockets are not allowed.	Allowed
Cracks	Hairline cracks up to 1 mm wide with a total length of up to 25% of the board's length are allowed.	Allowed
End cracks	A through crack of no more than the width of the board is allowed. At the ends of an end-matched board, a closed crack with a maximum length of 50% of the board width is allowed.	Allowed
Ring shake	Not allowed	Allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed
Trace of feed rollers	Not allowed	Allowed
Reaction wood	Allowed only to the extent that it does not significantly impede the fastening of the boards.	Allowed
Pith	Pith with a length of up to 50% of the board length is allowed.	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
Insect damage	Not allowed	Not allowed
Wood patch	Not allowed	Not allowed
Finger joints	Allowed	Allowed

* The table shows the permissible size and number of knots on the most knotty 1 m long part of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the total number of knots.

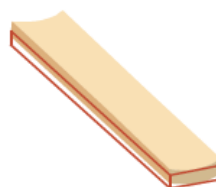


Shape and dimensional tolerances



BOW

Maximum 30 mm over a distance of 2000 mm allowed



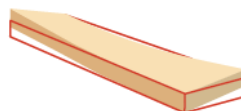
CUP

Maximum 3% of the board width allowed



SPRING, CROOK

Maximum 8 mm over a distance of 2000 mm allowed



TWIST

Maximum 20 mm over a distance of 2000 mm allowed

Dimension	Dimensional deviation when the moisture content of planed timber is 20%
Thickness and width ≤ 20 mm	± 0.5 mm
Thickness and width > 20 mm	± 1.0 mm
Width ≤ 100 mm	± 1.0 mm
Width > 100 mm	± 1.5 mm
Length when sorted by length	$-5...+25$ mm
Length when cut to size	± 2.0 mm

RESPONSIBILITY

Our wood comes from responsibly managed forests

The spruce we use is PEFC certified. The certificate means that the wood comes from forests that are managed with the aim of ecological and social sustainability. Our planing mill is located in Lempäälä, Finland, so the transport distances from the raw material to the finished product remain short.

