

GRADING RULES

Pine

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 pine into four quality classes: **EM**, **VM**, **TM** and **OM**.
2. The most common quality available is **VM/EM**, which includes two quality classes: **VM** and **EM**.
3. Sorting is always done according to **the better side** – that is, the surface that remains visible.
4. For boards planed all round (PAR), the "better side" consists of **three visible sides**: the top and both edges.
5. In wall panels, the "better side" is the visible surface that remains in the room.
6. The final quality is determined by the criteria presented on the following pages.

EM quality

Our most demanding quality class for pine. It allows only a few and well-defined knots as well as small natural characteristics of the wood. The end result is very clean and uniform, which makes it suitable for applications where the finished appearance of the surface is of great importance.

TM quality

A more lively option that allows more knots and the natural properties of wood. The end result is warm and authentically wooden, and it is well suited for sites where a natural look and good overall quality are valued.

VM quality

A high-quality and well-groomed pine quality that allows slightly more knots and natural wood features than EM quality. The appearance is still neat and uniform, but the natural look of the wood comes out subtly.

OM quality

A natural and rustic pine quality in which the true characteristics of the wood are clearly visible. Knots and other natural variations make the surface lively and personal. Ideal for applications where you want to emphasize the authentic and traditional look of wood.

DID YOU KNOW?

Pine is a warm-toned and lively wood material that brings a natural look and coziness to the interior. It is particularly suitable for dry interiors and, with the right surface treatment, also for damp spaces. The beautiful grain pattern and natural knots of pine make each surface unique.

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. The appearance of wood may change after installation. Wood responds to its surrounding environment, so changes not covered by the grading rules may occur in its surface and appearance over time. 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.



Pine (thickness ≤15mm)

Feature or defect	Quality class: EM	
	Visible face	Back face
Knots	Allowed ≤ 2 x 8 mm	Allowed
Spike knots	Not allowed	Allowed
Split knots	Not allowed	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 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Allowed up to 8 mm, included in the knot total	Allowed
Resin pockets	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 if it does not affect installability
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	Not 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 section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total.



Feature or defect	Quality class: VM	
	Visible face	Back face
Knots	Allowed $\leq 2 \times 15$ mm or $\leq 3 \times 10$ mm	Allowed
Spike knots	Not allowed	Allowed
Split knots	Up to 1×8 mm over a distance of two meters	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	Allowed up to 15 mm, included in the knot total	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 40 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
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Wane	Not allowed	Allowed if it does not affect installability
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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 section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total.



Feature or defect	Quality class: TM	
	Visible face	Back face
Knots	Allowed $\leq 30\%$ of the board width	Allowed
Spike knots	Allowed $\leq 50\%$ of the board width	Allowed
Split knots	Up to 1 x 8 mm over a distance of two meters	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
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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 section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total.

Feature or defect	Quality class: OM	
	Visible face	Back face
Knots	Allowed ≤ 50% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	Up to 1 x 8 mm over a distance of two meters	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 x 8 mm over a distance of two meters	Allowed
Canker and rind gall	Allowed up to 15 mm, included in the knot total	Allowed
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Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed if it does not affect installability
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 section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total.



Pine (thickness $\geq 18\text{mm}$)

Feature or defect	Quality class: VM	
	Visible face	Back face
Knots	Allowed $\leq 2 \times 18 \text{ mm}$ or $\leq 3 \times 15 \text{ mm}$	Allowed
Spike knots	Not allowed	Allowed
Split knots	Up to $1 \times 8 \text{ mm}$ over a distance of two meters	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 $1 \times 8 \text{ mm}$ over a distance of two meters	Allowed
Canker and rind gall	Allowed up to 15 mm , included in the knot total	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 40 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	Allowed
Wane	Not allowed	Allowed if it does not affect installability
Hit & miss	Not allowed	Allowed if it does not affect installability
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	Not 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 section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total.



Feature or defect	Quality class: TM	
	Visible face	Back face
Knots	Allowed ≤ 30% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	Up to 1 x 8 mm over a distance of two meters	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Not allowed	Allowed
Black knots	Allowed	Allowed
Dead knots	Solid knots are allowed	Allowed
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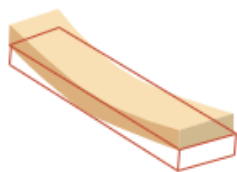


Feature or defect	Quality class: OM	
	Visible face	Back face
Knots	Allowed ≤ 50% of the board width	Allowed
Spike knots	Allowed ≤ 50% of the board width	Allowed
Split knots	Up to 1 x 8 mm over a distance of two meters	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Not allowed	Allowed
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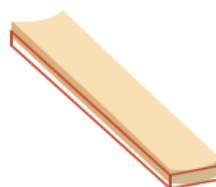


Shape and dimensional tolerances



BOW

Maximum 30 mm over a distance of 2000 mm allowed



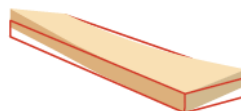
CUP

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 pine 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.

