LAUTA.FI

GRADING RULES

Douglas fir

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 which quality class it belongs to. We'll go over the following principles, so you know exactly what you're ordering.

1. We sort Douglas fir into one quality class: **AB**
2. Sorting is always done according to **the better side** – that is, the surface that remains visible.
3. In decking boards, the “better side” consists of **three visible sides**: the top and both edges.
4. In wall panels and exterior cladding, the “better side” is the **visible surface remaining in the room**.
5. The table that applies is determined by the thickness of the blank. For example, 28 mm exterior cladding is made from a 32 mm blank, so the “blank up to 32 mm” table applies. The “blank over 32 mm” table applies to a 50 mm blank, also when it is resawn into cladding boards of 23 mm or thinner.
6. The final quality is determined by the criteria presented on the following pages.

AB quality

This is the only quality class in which Douglas fir is available. A naturally beautiful, dense-grained surface. Thanks to the high proportion of heartwood, the end result is striking. Knots create a lively and varied look that highlights the unique character of real wood.

DID YOU KNOW?

Douglas fir turns a beautiful gray over time and retains its structural strength for decades without the need for constant maintenance. Douglas fir is denser and stiffer than pine or spruce. As it dries, it builds up more internal stress, which is released as narrow surface checks. Checking may also occur after grading, as the moisture content of the wood stabilizes during storage, transport and use. In outdoor use, checks open and close with the weather. Narrow surface checking is a typical visual characteristic of Douglas fir and does not reduce the strength or service life of the wood.

Types of defects and their permissibility

On the next page, we go through all the types of defects examined in grading. The table shows separately what is allowed on the visible face of the board and what is allowed on the back face. 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.

Douglas fir, blank up to 32 mm

Feature or defect	Quality class: AB Visible face	Back face
Knots	Allowed ≤ 1 x 50 mm and ≤ 3 x 45 mm; the number of smaller knots is not limited	Allowed
Spike knots	Allowed	Allowed
Split knots	Allowed	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Allowed ≤ 2 x < 8 cm^2 or ≤ 3 x < 5 cm^2	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 50 mm over a distance of 1.0 meter	Allowed
Canker and rind gall	Allowed ≤ 2 x < 8 cm^2 or ≤ 3 x < 5 cm^2	Allowed
Resin pockets	Up to 2 resin pockets with a surface area of less than 3 cm^2 are allowed. The length of a resin pocket may not exceed 70 mm, or the total length may not exceed 150 mm over a distance of one meter. Penetrating resin pockets are not allowed.	Allowed
Cracks	Cracks up to 1.5 mm wide are allowed, with a length of up to 200% of the board width and a total length of up to 120% of the board length. Surface checks up to 0.5 mm wide and up to 1/4 of the board thickness deep are not limited, as they are characteristic of Douglas fir and may form or open after grading.	Allowed
End cracks	A through crack up to 200 mm long 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	Allowed if it does not affect installability	Allowed if it does not affect installability
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	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. Cracks are assessed at the time of grading. Surface checks that form after grading as the moisture content stabilizes and that are within the limits for surface checks are a natural characteristic of the species and are not grounds for a complaint.

Douglas fir, blank over 32 mm

Feature or defect	Quality class: AB Visible face	Back face
Knots	Knots with a diameter of less than 30% of the board width are allowed. One knot larger than 50% of the piece thickness is allowed on the edges.	Allowed
Spike knots	Allowed	Allowed
Split knots	Allowed	Allowed
Knot holes	Not allowed	Allowed, not through
Bark knots	Allowed ≤ 2 x < 8 cm^2 or ≤ 3 x < 5 cm^2	Allowed
Black knots	Allowed, diameter less than 30% 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 50 mm over a distance of 1.0 meter	Allowed
Canker and rind gall	Allowed ≤ 2 x < 8 cm^2 or ≤ 3 x < 5 cm^2	Allowed
Resin pockets	Up to 2 resin pockets with a surface area of less than 3 cm^2 are allowed. The length of a resin pocket may not exceed 70 mm, or the total length may not exceed 150 mm over a distance of one meter. Penetrating resin pockets are not allowed.	Allowed
Cracks	Cracks up to 1.5 mm wide are allowed, with a length of up to 200% of the board width and a total length of up to 120% of the board length. Surface checks up to 0.5 mm wide and up to 1/4 of the board thickness deep are not limited, as they are characteristic of Douglas fir and may form or open after grading.	Allowed
End cracks	A through crack up to 200 mm long 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	Allowed if it does not affect installability	Allowed if it does not affect installability
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	Allowed	Allowed
Slope of grain	Allowed	Allowed
Bluestain	Not allowed	Not allowed
Color defect	Not allowed	Allowed
Rot	Not allowed	Not allowed
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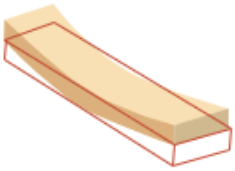
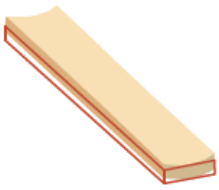
* The table shows the permissible size and number of knots on the most knotty 1 m long section of the piece of timber. Knots with a diameter of less than 6 mm are pin knots and do not count towards the knot total. Cracks are assessed at the time of grading. Surface checks that form after grading as the moisture content stabilizes and that are within the limits for surface checks are a natural characteristic of the species and are not grounds for a complaint.

Shape and dimensional tolerances



BOW

Maximum 30 mm over a distance of 2000 mm allowed

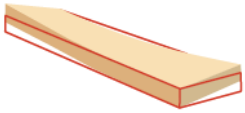


CUP

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 Douglas fir 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. Wood is a renewable, durable and well-insulating material, which makes it an environmentally friendly choice for construction. By building with wood, we create lasting value and build a more responsible future.