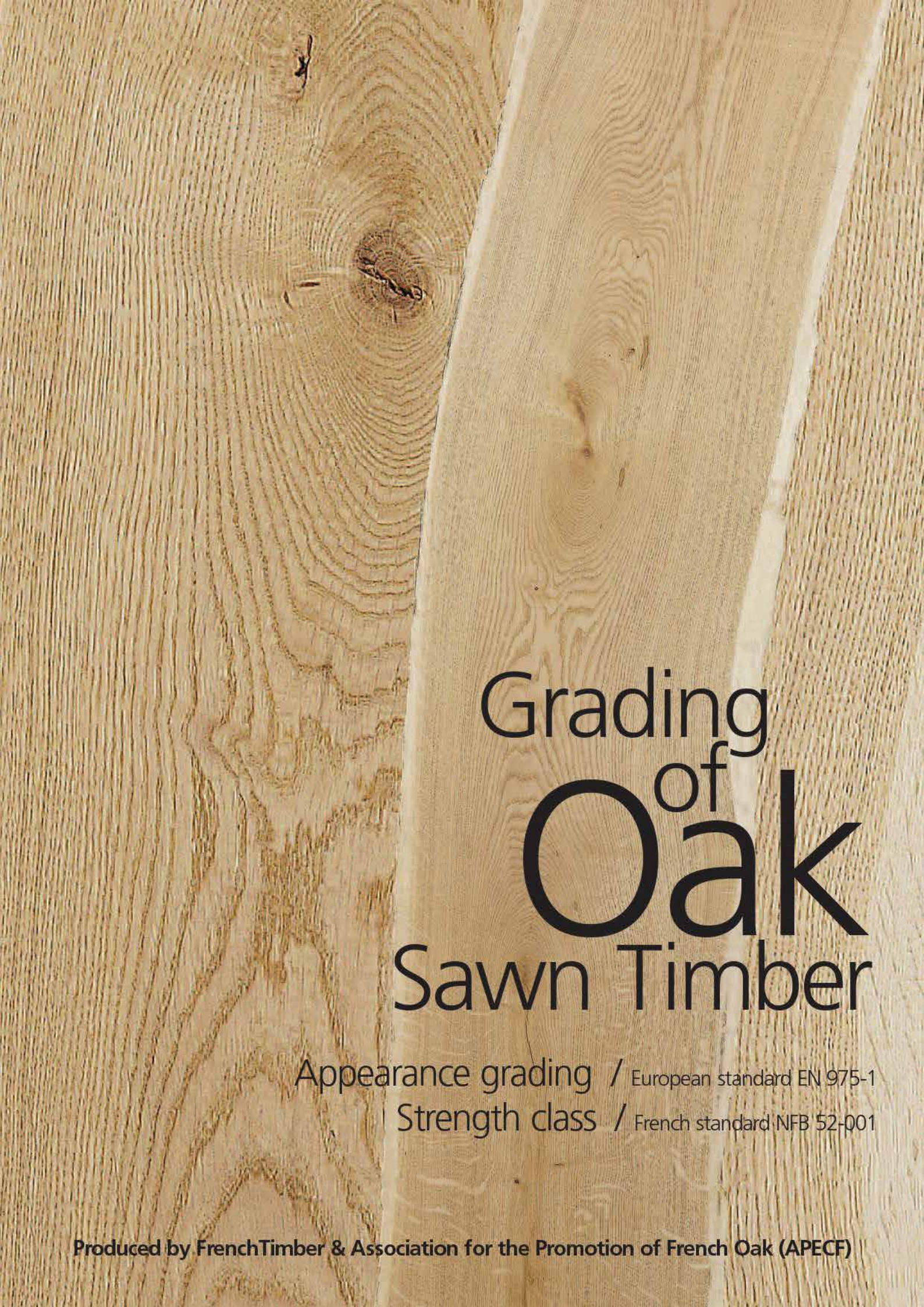

Grading of Oak Sawn Timber

Appearance grading / European standard EN 975-1
Strength class / French standard NFB 52-001

Produced by FrenchTimber & Association for the Promotion of French Oak (APECF)

Beams

Appearance grade Q-P A

• Sawn timber with sharp arrises; in case of pieces longer than 3 m, wane less than 10% of the face width is permitted across no more than 25% of the length.

• Sound sapwood permitted on two arrises if the total width is less than 15% of the face width.

• Fully or partly intergrown sound knots are permitted if the diameter is less than one third of the face width.

• Dead knots, permitted where equivalent to two dead knots with a diameter less than 15 mm per linear metre.

• Boxed heart permitted, as well as slight traces of heartwood on two faces. Slope of the grain less than 7%, not exceeding 12% locally.

Excluded: unsound knots, end shake, frost crack, ring shake, star shake, curly grain, bark pocket, unsound sapwood, brown pith, brown streak, rot, holes.

Appearance grade Q-P 1

• Sawn timber with practically sharp arrises, permitting wane less than 10% of the face width across no more than 30% of the length.
This width tolerance is increased to 15% for sections above 250 x 250 mm.
• Sound sapwood permitted on two arrises if the total width is less than 15% of the face width.
• Fully or partly intergrown sound knots are permitted if the diameter is less than half the face width.
• Two dead knots are permitted per linear metre if less than one quarter of the face width.
• Boxed heart permitted, as well as traces of heartwood on both faces. Slope of the grain less than 12%, not exceeding 20% locally.

Permitted on a limited number of pieces: brown streak, black holes, brown pith.
Excluded: unsound knots, frost crack, ring shake, star shake, curly grain, bark pocket, unsound sapwood, rot, white holes.

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Appearance grade Q-P 2

• Timber with wane less than 15% of the face width across no more than 30% of the length.
• Dead knots permitted if less than one third of the face.
• One unsound knot is permitted per linear metre if less than 15% of the piece width.

Permitted without any restrictions:
sound sapwood, fully or partly intergrown sound knots, sloping grain, brown pith, brown streak, black holes, exposed pith.
Permitted on a limited number of pieces: superficial bark pocket, unsound sapwood.

Excluded: frost crack, ring shake (unless it cannot be seen on the faces), rot, white holes.

Structural grading of beams

NF B 52-001 part 1 (2011)

For the following two product categories, rules have been defined for visually sorting pieces:

- **Beams with a thickness > 100 mm**

LARGE SECTION

Criteria	Visual classes	1	2	3
	Strength classes according to EN 338	D30	D24	D18
Growth ring width		< 10 mm		
Knots	Sound and inter-grown knots on the face	Ø < 1/3 of the width	Ø < 1/2 of the width	Ø < ¾ of the width
	Sound and inter-grown knots on the edge	Ø < 1/2 of the thickness	Ø < 1/2 of the thickness	Ø < ¾ of the thickness
	Other knots	Excluded	Ø < 1/3 of the width or thickness And Ø < 50 mm	Ø < 1/3 of the width or thickness And Ø < 60 mm
Grain slope	Local	1 : 5	1 : 4	1 : 3
	Général	1 : 10	1 : 10	1 : 10
Sapwood	cannot be used to predict the natural durability class		Sound sapwood permitted on the arrises if less than half the width of the faces and edges	
Wane		Less than 10% of the width of the face and edge across no more than 25% of the length	Less than 10% of the width of the face and edge across no more than 35% of the length	

- **Other beams** with a thickness between 22 mm (EN 336) and 100 mm, and a cross-section greater than 2 200 mm² (NF 52-001)

SMALL SECTION

Criteria	Visual classes	1	2	3
	Strength classes according to EN 338	D 30	D 24	D 18
Growth ring width		< 10 mm		
Knots	Sound and inter-grown knots on the face (1)	Ø < 1/5 of the width	Ø < 1/3 of the width	Ø < 1/2 of the width
	Sound and inter-grown knots on the edge (2)	Ø < 30 mm et Ø < 1/3 of the thickness	Ø < 30 mm Ø < 1/2 of the thickness	Ø < 45 mm Ø < 4/5 of the thickness
	Other knots	Excluded	Ø < 30 mm and < 1/3 of the thickness or the width	Ø < 45 mm and < 1/3 of the thickness or the width
Grain slope	Local	1:3		
	Général	1:5		
Sapwood	cannot be used to predict the natural durability class		Sound sapwood permitted on the arrises if less than half the width of the faces and edge	
Wane		Less than 10% of the width of the face and edge across no more than 25% of the length	Less than 10% of the width of the face and edge across no more than 35% of the length	

Correspondence between appearance and strength classes

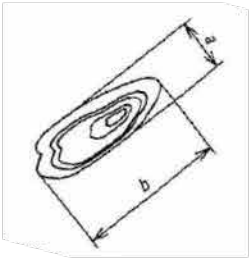
Campaigns aimed at grading French oak have led to a correspondence between the methods used to appearance grade and strength grade beams **with a thickness > 100 mm.** As such, a structural grade can be assigned to an appearance grade.

Appearance classes EN 975 - 1	Strength classes EN 338
Q-P A	D 30
Q-P 1	D 24
Q-P 2	D 18

Appendix
Principles for taking features into consideration

The quality criteria are determined in accordance with the rules specified in the EN 1310 and EN 1311 standards.

Appearance



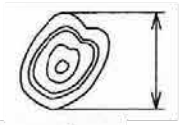
Knot sizes are measured as the average of their largest and smallest diameters

In case of strips and square-edged timber, knots with a diameter of less than 5 mm, which are excluded from grade A, are not taken into consideration for other grades.

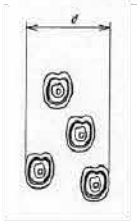
Cat's paws are measured as one knot whose size corresponds to the diameter of the cat's paw.

In case of knots whose size is less than the maximum permitted size for a given grade, a larger number of knots may be permitted. However, the sum of the dimensions of the knots in the measuring-out area must not exceed the maximum size permitted for knots for a given grade.

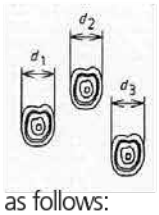
Structure



The size is the width of the knot or group of knots, measured perpendicularly to the longitudinal axis of the piece.



Groups of knots are measured on the surface where they were cross-cut. Dimension d is the total width of the group of knots or the sum of the individual knot sizes, such that:
d=d1+d2+...+dn



Growth ring widths are measured at each end of the piece. The value used is the average of both measurements. Measurements are made as follows: