

# APPEARANCE GRADING OF SAWN OAK

(French grading rules as published by APECF—Association Pour la Promotion des Emplois du Chêne et du Hêtre Français)

## Foreword

Accepted by the member countries of the European Sawmills Organization and adopted by the European Standardization Committee "CEN TC 175/WG 2" this quality grading was submitted for public enquiry in the form of a European draft standard for the purpose of being published as a European standard.

This quality grading defines qualities by the appearance of sawn timber and determines the terminology and the definitions of the different grades of freshly sawn oak and of regularised oak .

It is applicable to the following oak products:

\* boules and boards

\* square-edged timber with a thickness of less than/equal 27 mm

\* squared timber with cross sections between 100 x 100 and 250 x 250 mm

Other products of sawn oak can be subject to contractual agreements which, however should make use of the basic classification of this standard. '

For further information, in particular on the definition of the terms used in this standard, we refer to the "Guide Pratique d'Emploi des Sciages de Chêne et de Hêtre" published by APECF— [www.fnbois.com](http://www.fnbois.com)

The standardized classification chosen contains 3 characters (letters or numbers) or, if required, 2 additional letter.

<p>The first character indicates the latin initial:</p> <p><b>Q</b> — (Quercus : oak)</p>	<p>The second character indicates the type of product:</p> <p><b>B</b> - For boules  <b>F</b> - For strips and square-edged timber  <b>D</b> - For partially finished square-edged timber</p>	<p>The third character refers to the category by quality:</p> <p><b>"A"</b> represents exceptional quality</p> <p><b>1-2-3</b> represent the following decreasing levels of quality.</p>	<p>The addition of an <b>a</b> or <b>b</b> allows a distinction between grades 1 and 1 bis.</p>	<p>Finally, the addition of the letter <b>X</b> after the quality code indicates the presence of sapwood on one face of the strips or the square-edged timber.</p>
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## THE FOLLOWING GRADES WERE STANDARDISED:

Boules	4 grades	Q-BA	Q-B1	Q-B2	Q-B3	
Square-edged timber	5 grades	Q-FA or Q-F AX	Q-F1 Q-F1aX Q-F1aXX*	Q-F1b Q-F1bX Q-F1bXX*	Q-F2 Q-F2X Q-F2XX*	Q-F3 Q-F3X Q-F3XX*
Squared Timber	3 grades	Q-PA	Q-P1	Q-P2		

\* These grades comprising "sapwood on two faces" were not included in the European draft standard.

# BOULES

## DIMENSIONAL CLASSIFICATION

Boules that are re-assembled are sold in dimensional categories on the basis of the width of the central board, measured in the middle of its length, excluding bark, with no reductions, freshly sawn.

Width for grades Q-BA : 350 - 390 mm, 400 - 490 mm, 500 - 590 mm, 600 - 690 mm, 700 mm and more

Width for grades Q-B1, Q-B2, Q-B3 and for boards : 250 - 290 mm, 300 - 390 mm, 400 - 490 mm, 500 - 590 mm, 600 - 690 mm, 700 mm and more

Minimum width : 80 mm not including sapwood measured alongside the board for grade Q-BA

80 mm not including sapwood at mid-length of the board for grades Q-B1, Q-B2 et Q-B3.

Length : 3 m in 100 mm increments for grades Q-BA, Q-B1 et Q-B2

2 m in 100 mm increments with a tolerance of 10% of 1 m to 1,90 for grade Q-B3 and for boards.

*N-B : Unless otherwise agreed by the parties concerned the final inspection of the boules and the boards takes place on the site of the seller. Any reductions will be carried out on the basis of the criteria of the individual grades.*

### Q-BA



Boules in which two thirds of the boards are clean, straight, with little sapwood, grain practically straight, and with a regular heart.

Fine and semi-fine grain: A request for fine grain only is subject to contractual agreement.

Regular colouring.

Sound intergrown knots: one knot with a maximum diameter of 20 mm per 2 meters is permitted.

Sound sapwood is permitted on the two faces of the boards up to a width of 40 mm. Outside of these limits a reduction of volume can be agreed upon by contact.

Heart shakes: accepted with a reduction of volume.

Not acceptable: curly grain, enclosed sapwood, red heart, brown rot, black streaks, stain, rot, through bark pocket, spiral grain.

Isolated occurrence of one of these characteristics on a board can be tolerated: frost split, ring shake, star shake, surface bark pocket.

### Q-B1



Sold as boules or as separate unedged boards.

The grain may be slightly angled relative to the log's axis.

Sound intergrown knots: one knot with a maximum diameter of 40 mm per 2 meters is permitted.

Bigger knots are tolerated, on condition they are isolated on 25% of the board, and lead to volume reduction.

Sound sapwood is permitted on the two faces of the board up to a width of 40 mm.

Outside of these limits a reduction of volume can be agreed upon by contract.

Heart shakes and brown rot is permitted but leads to volume reduction.

Not acceptable: curly grain, enclosed sapwood, spiral grain, through bark pocket.

Isolated occurrence of one of these characteristics on a board can be tolerated:

frost split, ring shake, star shake, red heart, black streaks, stain, rot, bore holes

### Q-B 2



Sold as boules or as separate unedged boards.

Sloping or twisted grain is permitted.

Curly grain is tolerated.

Sound knots or cat's paws: one knot with a maximum diameter of 80 mm per 2 meters permitted.

Knots above 80 mm in diameter are accepted on 25% of the boards maximum, on condition they are isolated. They do, however, give rise to volume reductions.

Occurrence of unsound knots accepted on 10% of the boards.

One of the following defects is accepted with volume reduction:

heart shake, frost shake, ring shake, star shake, unsound sapwood, stain, rot, bore holes.

Acceptable: surface bark pocket, sound sapwood, red heart, brown rot, black streaks.

Not acceptable: through sapwood, enclosed sapwood.

### Q-B 3

Sold as boules or as separate unedged boards.

No limitation of slope of grain.

Knots are permitted without any limitation unless they are contractually excluded.

Some defects or deteriorations are permitted without any limitation unless they are contractually excluded.

# Square Edged Timber

THE FOLLOWING QUALITIES WERE DEFINED FOR TWO TYPES OF SQUARE-EDGED TIMBER:

Strips : Thickness 27 mm - width 40 - 90 mm in 10 mm increments, in batches of fixed width - length 250 - 2100 mm in 50 mm increments.

Other square-edged timber: Thickness 27 mm - width 100 mm and more, in batches of random width - length up to 2100 mm in 50 mm increments.

For other thickness, it is recommended to indicate the quality requirements of each in a specification sheet.

## Q-FA (4 clear faces)



Straight-grained sawings, free from all deteriorations or sawing defect on all four faces.

Not acceptable: sapwood, heart spiral and curly grain.

Other characteristics (dimension cut timber): colour, grain, quarter sawn or 3/4 sawn according to terms of contract.

## Q-F1a (3/4 clear faces)



Straight-grained sawings, free from all deteriorations or sawing defect except for 20% of parts which can have one intergrown sound knot of 10 mm maximum diameter, or its equivalent, per linear meter on one face or one edge. If a piece is smaller than 1 m the entire piece will be accepted.

Slope of grain: almost straight.

Not acceptable: sapwood, heart, spiral and curly grain, cross grain.

Other characteristics (dimension cut timber): colour, grain, quarter sawn or 3/4 sawn according to terms of contract.

## Q-F 1 b



Tolerance on each face of two intergrown sound knots of 12 mm maximum diameter, or its equivalent, per linear meter.

Slope of grain: almost straight.

Not acceptable: sapwood, heart, spiral and curly grain, deterioration, cross grain, bark pocket, bore holes, warping.

Surface checks tolerated.

Other characteristics (dimension cut timber): colour, grain, etc. according to terms of contract.

## Q-F2



Presence on each face of small knots without limitation, and of a maximum of three sound knots per linear meter, maximum diameter not to exceed one third of the width of the timber or 25 mm or equivalent.

Slope of grain permitted.

Not acceptable: sapwood, heart, deterioration.

## Q-F3



Presence on each face of small knots without limitation, and of a maximum of three sound knots per linear meter, maximum diameter not to exceed one half of the width of the timber or 40 mm or equivalent.

Not acceptable: sapwood, heart, deterioration.

## QUALITY GRADES WITH SAPWOOD ON ONE FACE

The sawn timber has the same quality characteristics as the grades without sapwood. The sapwood must not exceed two thirds of the edges.

The presence of sapwood in a grade is indicated by the letter X.

The grades are as follows : Q-F AX, Q-F 1aX, Q-F 1bX, Q-F2X, Q-F 3X.

Not acceptable : wane

## QUALITY GRADES WITH SAPWOOD ON TWO FACES

Sapwood can occur on all faces except in grade Q-FA.

This is indicated by the two letters XX at the end of the classification.

# SQUARED TIMBER

OAK SQUARED TIMBER IS NORMALLY AVAILABLE IN THE FOLLOWING DIMENSIONS (FRESHLY SAWN) IN MM:

100 x 100	150 X 150	200 X 200
120 x 120	180 X 180	250 X 250

Dimensions exceeding 250 x 250 are subject to contractual agreement.  
Length up to 5 m. Longer dimensions are subject to contractual agreement.

## Q-PA

All the pieces in a batch have the following characteristics:



Sawn timber with sharp edges, no wane, with tolerance of small quantities of sound sapwood on two edges maximum, if it covers less than 15% of the width of the faces and the edges.

Slight traces of heart on one face tolerated.

Enclosed heart permitted, black streaks tolerated on 10% of the pieces of the batch.

Sound knots are permitted, as long as the diameter of each one does not exceed one third of the width of the face or edge.

Two sound dead knots with a diameter of < 15 mm per metre are permitted.

Not acceptable: heart shakes, ring shakes, frost cracks, curly grain, bark pocket, enclosed sapwood, stain, bore holes, red heart, brown rot.

Slope of grain < 7% permitted on one face and must not exceed 10%.

Face shakes tolerated.

## Q-P 1



Sawn timber with sharp edges, no wane, with tolerance of small quantities of sound sapwood on two edges maximum if the minimum width exceeds 90% of the width of the piece.

Sound sapwood not exceeding half the width of the face or the edges is accepted on the edges.

Slight traces of heart tolerated on two faces.

Enclosed heart permitted, red heart permitted.

Sound knots are acceptable, as long as their diameter does not exceed one half of the width of the face or edge.

Two sound dead knots are permitted per linear metre as long as their individual diameter does not exceed one quarter of the width of the face or edge.

On 10% of the pieces of the batch black streaks, brown rot, curly grain, bark pocket can be present. Some black bore holes can be accepted.

Slope of grain < 12% permitted on one face and must not exceed 20%.

Heart shakes, ring shakes and frost cracks are permitted on the ends of the pieces, as long as they do not appear on the faces.

Face shakes tolerated.

## Q-P 2



Sawn timber with tolerance of wane without limitation, leaving, on the faces and edges, a width of at least 60% of nominal.

Sound sapwood permitted without limitation.

Unsound sapwood is permitted on the edges to the same degree as wanes.

The only defect not acceptable is the presence of dead knots whose individual diameter exceeds one third of the width of the face or edge.

Black bore holes are permitted.

Deterioration caused by fungus attack is not acceptable on the faces.

Unsound or rotten knots are tolerated.

Slope of grain < 18% permitted on one face and must not exceed 25%.

Not acceptable: stain and rot.

Face shakes of maximum 10 cm permitted.

## GENERAL PRINCIPLES FOR THE DETERMINATION OF GRADES

### 1) Determination of the quality of a boule or of boards.

Boules : All boules are judged by their quality

Boards :Each board is judged by its quality

The presence of characteristics which are not permitted in a grade leads to a reduction of volume in accordance with the definition of the grade.

### 2) Determination of the quality of a piece (strips or square-edged timber)

The quality of every sawn piece is judged by appearance of the faces and the edges with particular emphasis being placed on the presence, importance, position and distribution of structural characteristics, of logging characteristics and of deterioration.

If one single characteristic does not comply with the criteria laid down the piece will be downgraded.

Appearance grading does not take account of dimensional defects (irregular thickness and width).

### 3) Quality grading of a batch of square-edged timber:

The pieces must comply with the quality characteristics of the grades they were assigned to.

## GENERAL PRINCIPLES FOR THE MEASUREMENT OF QUALITY CHARACTERISTICS

- Knots are measured by their smallest diameter.

Knots with a diameter of < 5 mm, which are excluded in grade A, are Not taken into consideration at the time of measurement. A group of knots of the same kind can be taken as one knot whose dimension corresponds to the sum of the dimensions of the group of knots.

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

- Shakes are judged by their length.
- Ring shakes are measured with a cord if they are smaller than a semicircle. If they occur on the faces their diameter and length is measured.
- Surface checks are judged by measuring the cracked surface
- Bark pockets are taken into consideration and measured by their length and width.
- Colorations are taken into consideration.
- Fungal attack and insect attack are considered and / or measured in accordance with the dimension of the attacked surface.
- Sapwood is taken account of by its nature and dimension, on the face and on the edge.