

Appearance grading of  
**chestnut**  
sawn timber

NF B53-801 Standard (2013)

**chestnut**  
*Généreux par essence*

To facilitate trade in sawn timber that is standardised in terms of size and appearance, a standardised appearance grading system for chestnut sawn timber has been developed in France.

In partnership with the APECF and inter-professional organisations, chestnut processor professionals conducted a study enabling the chestnut to be graded, thereby allowing the development of a normalisation process for this species.

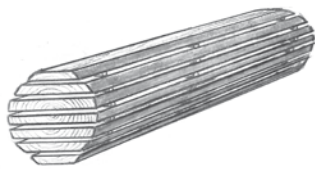
It was essential to define national grading rules, in order to provide end-user customers with batches of chestnut sawn timber of uniform quality, defined based on criteria recognised by sawmills and users alike.

## NF B53-801 appearance grading

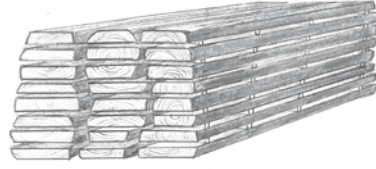
This document specifies the method used to determine qualities based on the visual appearance of the sawn timber, and defines the designations and definitions of the various appearance grades for chestnut (green wood or dry wood) sawn timber (rough or planed).

### Terminology

Appearance grading applies to chestnut products in the following categories:

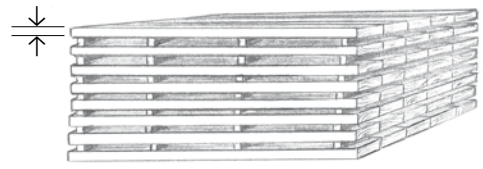


**Boules**



**Selected boards**

Thickness  $\leq 41$  mm



**Strips and square-edged timber**

2

If necessary, products not included in these categories may be subject to contractual specifications drawn up on the basis of this document.

The chosen designation features three characters:

**C**

**The 1st character**

represents the initial of the Latin name.

C: *Castanea sativa*, Mill.

**B**

**The 2nd character**

indicates the type of product.

B: boules

S: selected boards

F: strips and square-edged timber

**A**

**The 3rd character**

refers to the appearance quality grade.

A: exceptional

1 to 3: grade in decreasing order of quality

The following grades have thus been standardised:

**Boules:** C-BA | C-B1 | C-B2

**Selected boards:** C-SA | C-S1 | C-S2

**Strips and square-edged timber:** C-FA | C-F1 | C-F2 | C-F3

This leaflet is a summary and full reference should be made to the relevant standards. Photographs are non-contractual and are provided for information purposes only.

# Dimensional grading of sawn timber

## 1 - Boules

These are marketed in categories of specific dimensions that are determined by the width of the central board, sapwood included, measured halfway along its length.

- Narrowest width:
  - 150 mm, excluding sapwood, across the entire length of the board for grade C-BA
  - 120 mm, excluding sapwood, measured halfway along the board for grades C-B1 and C-B2
- Minimum length: 2 meters and more

## 2 - Selected boards

These meet the same criteria (narrowest width and width) as those used for boules.

## 3 - Strips and square-edged timber

Square-edged timber and strips are four sided edged sawn timber pieces and are defined as follows:

- Strips (widths of 40 to 120 mm,  $18 < \text{thickness} \leq 35$  mm; short lengths) are delivered in fixed-width batches in 10 mm increments.
- Square-edged timber (widths  $> 100$  mm, thickness  $\leq 41$  mm) is delivered in fixed-width batches in 20 mm increments.

# Rules for determining grades

Appearance grades for chestnut are defined in the NF B53-801 standard.

Size variations due to drying are not taken into account when grading timber quality.

This is already covered by the EN 1313-2 standard or covered by specific contractually established requirements.

## 1 - Boules

The entire boule is qualitatively assessed in terms of its top faces. In the case of any features that are not allowed according to the corresponding grade definition, the volume is reduced accordingly. The proportion of grades allowed within a boule is provided in the following table:

### Proportion of grades allowed within a boule for a given appearance grade:

$\geq 65\%$ : Specified grade
$< 25\%$ : One grade lower
$< 10\%$ : Two grades lower



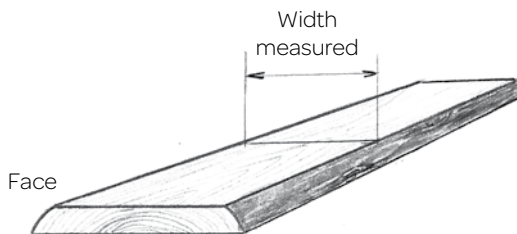
C-BA
C-B1
C-B2

Example of a boule graded C-BA

## 2 - Selected boards

The quality of each board is assessed based on the face whose width is measured.

A maximum of 10% of boards with a grade lower than the lowest of the specified grades is allowed.



## 3 - Strips and square-edged timber

The quality of every sawn piece is assessed through the appearance of its most attractive face (best face), taking into account not only the presence, extent, position and distribution of any features and specific sawing and deteriorations, but also certain features that are excluded.

# Boules and Selected Boards (of more than 200 cm)



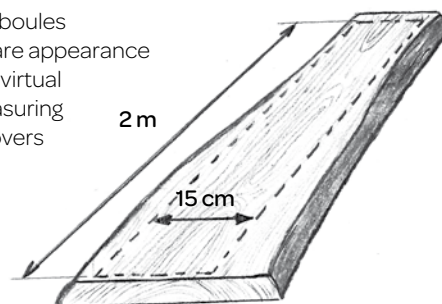
## ◀ C-BA and C-SA grades

- narrowest width > 15 cm
- straight grain
- Sawn piece free of features other than:
  - 1 sound knot ( $\varnothing < 20$  mm)
  - 4 black knots ( $\varnothing < 5$  mm each) at most
- ✓ **Allowed with a reduction in length and width:**
  - 1 isolated knot < 15 % of the width of the board
  - straight shake
- ✗ **Total absence of:**
  - non-intergrown, black or unsound knots, diagonal shake, frost crack, bark pocket, brown, rot, traces of damage caused by insects

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### Comments

1. Un-edged chestnut boules (or selected boards) are appearance graded by means of a virtual grading rectangle measuring 0.15 m x 2 m, which covers as many features as possible.



2. Boards cannot be downgraded due to the presence of a single feature that is not allowed in the grading system. This feature should be allowed with a reduction in volume.

### NOTE on boules and selected boards

Traces of damage caused by insects



Yellow marks

This colouring is difficult to detect during sawing but may appear during machining operations.



## ◀ C-B1 and C-S1 grades

→ narrowest width > 12 cm

→ sound knots:

$$* \begin{cases} \varnothing \leq 30 \text{ mm} \\ \Sigma \varnothing \leq 60 \text{ mm} \end{cases}$$

→ 6 black knots ( $\varnothing < 5 \text{ mm}$  each) at most

→ grain slope

✓ **Allowed with a reduction in length and width:**

→ straight shake, diagonal shake

→ 2 non-intergrown or unsound knot ( $\varnothing < 20 \text{ mm}$  each)

→ 1 single knot ( $\varnothing < 15\%$  of the width of the board)

→ brown, ring shake, bark pocket if isolated

✗ **Total absence of:**

→ frost crack, traces of damage caused by insects, rot



## ◀ C-B2 and C-S2 grades

→ narrowest width > 12 cm

→ sound knots:

$$* \begin{cases} \varnothing \leq 45 \text{ mm} \\ \Sigma \varnothing \leq 135 \text{ mm} \end{cases}$$

→ black knots ( $\varnothing < 5 \text{ mm}$ )

→ grain slope

→ brown

→ traces of damage caused by insects

✓ **Allowed with a reduction in length and width:**

→ straight shake, diagonal shake

→ 2 non-intergrown or unsound knot ( $\varnothing < 30 \text{ mm}$  chacun)

→ 1 single knot ( $\varnothing < 20\%$  of the width of the board)

→ ring shake, frost crack

→ bark pocket if isolated

→ rot

\* the concept of equivalence allows for the acceptance of a number of knots greater than the maximum number authorised in the grade, provided that:

- The diameter of each knot is less than the diameter allowed in the grade
- The sum of the diameters is less than the maximum allowed value.

# Strips and Square-Edged Timber



## ◀ C-FA grade

- pieces with a straight grain
- sawn piece free of any features other than the distribution of sound knots ( $\varnothing \text{ max } \leq 5 \text{ mm}$ )
  - if width  $< 120 \text{ mm}$ :
    - 3 knots at most
  - if width  $\geq 120 \text{ mm}$ :
    - one additional knot for every additional 40 mm in width
- ✓ **Allowed on the worst face:**
  - small black knots

## C-F1 grade ▶

- pieces with a straight grain
- sound knots:
  - if width  $< 120 \text{ mm}$ :
    - $\varnothing \leq 12 \text{ mm}$
    - \*  $\sum \varnothing \leq 36 \text{ mm}$
  - if width  $\geq 120 \text{ mm}$ :
    - sum of the  $\varnothing$  of the knots increased by 12 mm for every additional 40 mm in width
- ✓ **Allowed:**
  - small black knots ( $\varnothing < 5 \text{ mm}$ )
    - 2 per linear meter
  - brown allowed across 20 % of the surface
  - presence of pith allowed on 15 % of the sawn pieces delivered
- ✓ **Allowed on the worst face:**
  - small black knots ( $\varnothing < 5 \text{ mm}$ )
  - dead knots, unsound knots or knots present on one face only,  $\leq 12 \text{ mm}$



\* the concept of equivalence allows for the acceptance of a number of knots greater than the maximum number authorised in the grade, provided that:

- The diameter of each knot is less than the diameter allowed in the grade
- The sum of the diameters is less than the maximum allowed value.

### NOTE on strips and square-edged timber

Features should be taken into account on the best face of the piece.

Knots should be taken into account on the linear metre that is the most affected.

Total absence of rot, bark pockets, unsound sapwood, for all grades.

Sawn timber distortion tolerance is proportional to the grade. (please refer to the NF B53-801 standard)



## ◀ C-F2 grade

→ sound knots:

→ if width < 120 mm:

$$* \begin{cases} \varnothing \leq 25 \text{ mm} \\ \Sigma \varnothing \leq 75 \text{ mm} \end{cases}$$

→ if width  $\geq$  120 mm:

- sum of the  $\varnothing$  of the knots increased by 25 mm for every additional 40 mm in width

### ✓ Allowed:

- small black knots ( $\varnothing < 5$  mm)
- yellow marks (1/3 of the length)
- brown (50 % of the surface)
- boxed heart
- wane (1/3 of the thickness)

### ✓ Allowed on the worst face:

- dead knots, unsound knots or knots present on one face only,  $\leq 25$  mm
- traces of damage caused by insects
- exposed pith

## C-F3 grade ▶

→ sound knots:

→ if width < 120 mm:

$$* \begin{cases} \varnothing \leq 40 \text{ mm} \\ \Sigma \varnothing \leq 120 \text{ mm} \end{cases}$$

→ if width  $\geq$  120 mm:

- sum of the  $\varnothing$  of the knots increased by 40 mm for every additional 40 mm in width

### ✓ Allowed:

- small black knots ( $\varnothing < 5$  mm)
- loose knots
- yellow marks
- ring shake and frost crack (if superficial)
- Chapping
- shake length (15 % of sawn pieces) if < width of the board
- brown
- traces of damage caused by insects
- boxed heart
- wane (1/3 of the thickness)

### ✓ Allowed on the worst face:

- dead knots, unsound knots or knots present on one face only,  $\leq 25$  mm
- exposed pith

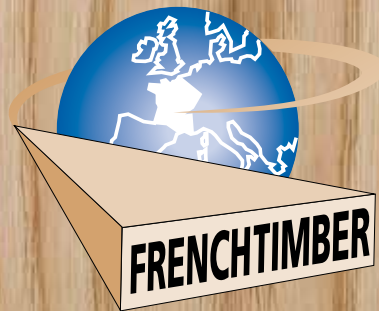


# FEUILLUS DE FRANCE CHÂTAIGNIER



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