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Hardwood round timber - Qualitative classification - Part 1: Oak and beech

Laub-Rundholz - Qualitäts-Sortierung - Teil 1: Eiche und Buche

Bois ronds feuillus - Classement qualitatif - Partie 1: Chêne et hêtre

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79.040	Les, hlodovina in žagan les	Wood, sawlogs and sawn timber

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EUROPEAN STANDARD

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English Version

Hardwood round timber - Qualitative classification - Part 1: Oak and beech

Bois ronds feuillus - Classement qualitatif - Partie 1: Chêne et hêtre

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 1316-1:2012) has been prepared by Technical Committee CEN/TC 175 “Round and sawn timber”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1316-1:1997.

This standard is one of a series of standards concerning round timber (softwoods and hardwoods).

Other parts of this standard are:

EN 1316-2, *Hardwood round timber — Qualitative classification — Part 2: Poplar*

The main changes compared to the previous edition are:

a) Clause 4 “qualitative classification” completely revised and classes A to D defined;

b) Table 1 “grading rules for oak” revised and new features added;

c) Table 2 “grading rules for beech” revised and new features added;

d) Editorial revision.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies a qualitative classification and grade designations for felled round timber of oak and beech presented in the form of long poles or logs.

The classifications describe quality classes of round timbers for which the intended use is not known.

The classification applies for the following species: Oaks, *Quercus sessiliflora* SALISB. (or *Quercus petraea* LIEBL.), *Quercus robur* L. (or *Quercus pedunculata* EHRH.) and Beech (*Fagus sylvatica* L).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 844-1:1995, *Round and sawn timber — Terminology — Part 1: General terms common to round timber and sawn timber*

EN 844-2:1997, *Round and sawn timber — Terminology — Part 2: General terms relating to round timber*

EN 844-5:1997, *Round and sawn timber — Terminology — Part 5: Terms relating to dimensions of round timber*

EN 844-7:1997, *Round and sawn timber — Terminology — Part 7: Terms relating to anatomical structure of timber*

EN 844-8:1997, *Round and sawn timber — Terminology — Part 8: Terms relating to features of round timber*

EN 844-10:1998, *Round and sawn timber — Terminology — Part 10: Terms relating to stain and fungal attack*

EN 1309-2, *Round and sawn timber — Method of measurement of dimensions — Part 2: Round timber — Requirements for measurement and volume calculation rules*

EN 1310, *Round and sawn timber — Method of measurement of features*

EN 1311, *Round and sawn timber — Method of measurement of biological degrade*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 844-1:1995, EN 844-2:1997, EN 844-5:1997, EN 844-7:1997, EN 844-8:1997 and EN 844-10:1998 apply.

4 Qualitative classification

4.1 Grading principles

Each long pole, log or portion of a round timber individualized by a theoretical crosscut point, is qualified according to its dimensions and to the presence, size, and distribution (e.g. concentration) of specific features.

4.2 Designation of grades

The qualitative grading has four classes; A, B, C and D. The grading is based on the following general description of quality classes:

— **Quality class A**

First quality timber: generally corresponding to a butt log with clear timber or with only minor features which do not restrict use.

— **Quality class B**

Timber of average to first quality, with no specific requirements for clear wood. Knots are permitted to such an extent as is considered to be average for each species.

— **Quality class C**

Timber of average to low quality, allowing all quality features which do not seriously reduce the natural features of the wood.

— **Quality class D**

Timber which can be sawn into usable wood, which, because of its features, falls into none of the quality classes A, B or C.

4.3 Features to be taken into account for the classification

The classes are defined more precisely in Table 1 for oak and Table 2 for beech. All the listed qualitative features in Table 1 and Table 2 shall be taken into account when a class is assigned and measurements shall be made according to EN 1309-2, EN 1310 and EN 1311.

In the case of one feature exceeding the limit of the class, which would lead to a downgrading, the reduction of length or diameter excluding the feature may allow to remain in this class.

This classification shall be completed with the Latin name of specified species. The abbreviation of this Latin name can also be used instead of the full name.

EXAMPLE 1 Oak: *Quercus* class B or Q-B.

EXAMPLE 2 Beech: *Fagus* class B or F-B.

5 Tables of rules of grading

Table 1 —Grading rules for oak *(1 of 2)*

Features	Classes			
	A	B	C	D [c]
(1) dimension				
minimum length	3 m [b]	3 m [b]	2 m [b]	2 m [b]
minimum mid diameter under bark [a]	40 cm [b]	35 cm [b]	30 cm [b]	20 cm [b]
(2) nail and epicormic shoot	1 per 3 m	permitted	permitted	permitted
(3) sound knots	1 per 3 m (≤ 2 cm)	1 per 1 m (≤ 4 cm) or 1 per 3 m (≤ 6 cm)	permitted	permitted
(4) unsound knots (including roses)	not permitted	1 per 2 m (≤ 3 cm; ≤ 4 cm for roses)	no limitation for knots ≤ 3 cm and roses ≤ 4 cm; 1 per 2 m ≤ 10 cm	permitted
(5) burl	not permitted	1 per 2 m	permitted	permitted
(6) star shake	permitted in the central fifth of the radius	permitted in the central third of the radius	permitted in the central 2/3 of the radius	permitted
(7) ring shake	not permitted	permitted in the central fourth of the radius on the butt end only	permitted on the butt end only	permitted
(8) crack	not permitted	length of the crack on the surface shall be smaller than the mid diameter [d]	length of the crack on the surface shall be smaller than the doubled mid diameter [d]	permitted
(9) frost crack	not permitted	not permitted	not permitted	permitted
(10) insect attack	not permitted	not permitted	permitted in sapwood	permitted
(11) T disease	not permitted	not permitted	permitted	permitted
(12) sapwood	≤ 3 cm	unlimited	unlimited	unlimited
(13) rate of growth	≤ 4 mm	unlimited	unlimited	unlimited

Table 1 —Grading rules for oak *(2 of 2)*

Features	Classes			
	A	B	C	D [c]
(14) colour	homogeneous [b]	no require-ments	no require-ments	no require-ments
(15) eccentric pith	≤ 10 %	≤ 20 %	unlimited	unlimited
(16) spiral grain	≤ 4 cm/m	≤ 7 cm/m	permitted	permitted
(17) simple sweep	≤ 2 cm/m	≤ 4 cm/m	≤ 10 cm/m	permitted
(18) included sapwood	not permitted	not permitted	not permitted	permitted
(19) rot	not permitted	permitted in the sapwood	permitted in the sapwood and permitted in the central fourth of the diameter	permitted
(20) brown oak	not permitted	not permitted	permitted in the central 1/3 of diameter	permitted
For other features, as *e.g.* brown spot, brown streak, ovality, specific contract regulations are recommended.				

a Contractors need to agree on a bark reduction.

b Except clauses stipulated by contract.

c Provided that at least 80 % of the cross section is usable on the complete length.

d In case of traversing cracks, a reduction in length should be arranged.

e In case of white rot, a reduction in length should be arranged.