SLOVENSKI STANDARD
SIST EN 1927-1:2008

01-julij-2008

Nadomeġļ a:
SIST ENV 1927-1:2003

Razvrġļ anje okroglega lesa iglavcev po kakovosti - 1. del: Smreke in jelke

Qualitative classification of softwood round timber - Part 1: Spruces and firs

Qualitäts-Sortierung von Nadel-Rundholz - Teil 1: Fichten und Tannen

Classement qualitatif des bois ronds résineux - Partie 1 : Epicéas et sapins

Ta slovenski standard je istoveten z: **EN 1927-1:2008**

ICS:

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

SIST EN 1927-1:2008 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1927-1

March 2008

ICS 79.040

Supersedes ENV 1927-1:1998

English Version

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. EN 1927-1:2008: E

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Foreword

This document (EN 1927-1:2008) 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of an identical text or by endorsement, at the latest by September 2008, and conflicting national standards shall be withdrawn at the latest by September 2008.

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 will supersede ENV 1927-1:1998.

EN 1927 consists of the following parts with the main title *Qualitative classification of softwood round timber*:

— EN 1927-1, *Spruces and firs*

— EN 1927-2, *Pines*

— EN 1927-3, *Larches and Douglas fir*

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

1 Scope

This European Standard specifies the qualitative classification for the roundwood of spruces *(Picea spp)* and firs *(Abies spp)*. The classification is made either using Clauses 4 and 5 or using Annex A. Clauses 4 and 5 describe the qualitative classification of round timber for which the intended use is unknown.

Informative Annex A gives a list of characteristics which serves as a guideline for contracts describing qualities for round timber of spruces and firs where the intended use is known.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 844-9:1997, *Round and sawn timber — Terminology — Part 9: Terms relating to features of sawn timber*

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

EN 844-12:2000, *Round and sawn timber— Terminology — Part 12: Additional terms and general index*

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*

ISO 2036, *Wood for manufacture of wood flooring — Symbols for marking according to species*

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, EN 844-9:1997, EN 844-10:1998 and EN 844-12:2000 apply.

4 Qualitative classification for which the intended use is unknown

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, without defects or with only minor defects and with few restrictions to its 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 characteristics which do not seriously reduce the natural characteristics of the wood.

— **Quality class D**

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

The classes are defined more precisely in Table 1. All the listed qualitative characteristics in Table 1 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.

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

EXAMPLE 1 Fir: *Abies alba* class B or ABIA-B[1].

EXAMPLE 2 Spruce: *Picea abies* class B or PICA-B[1].

[1] Symbols given in ISO 2036

5 Rules for grading

Table 1 — Grading of spruces and firs

Characteristics	Classes			
	A	B	C	D
knots				
intergrown, sound	not permitted [a]	≤ 4 cm	≤ 8 cm	permitted
dead	not permitted	≤ 3 cm	≤ 6 cm	permitted
unsound	not permitted	not permitted	≤ 3 cm	permitted
resin pocket	not permitted [a]	1 per cross-section	permitted	permitted
rate of growth	≤ 4 mm	≤ 7 mm	unlimited	unlimited
growth				
spiral grain	≤ 3 cm/m	≤ 7 cm/m	≤ 10 cm/m	unlimited
eccentric pith	≤ 10 %	≤ 15 %	unlimited	unlimited
reaction wood [b]	not permitted	≤ 10 %	≤ 33 %	unlimited
sweep [c] < 20 cm	no requirement	≤ 1 cm/m	≤ 1,5 cm/m	≤ 3 cm/m
≥ 20 cm to < 35 cm	≤ 1 cm/m	≤ 1 cm/m	≤ 1,5 cm/m	≤ 3,5 cm/m
≥ 35 cm	≤ 1 cm/m	≤ 1,5 cm/m	≤ 2 cm/m	≤ 4,5 cm/m
taper [c] < 20 cm	no requirement	≤ 1,25 cm/m	≤ 2 cm/m	unlimited
≥ 20 cm to < 35 cm	unlimited	≤ 1,5 cm/m	≤ 2,5 cm/m	unlimited
≥ 35 cm	unlimited	≤ 2 cm/m	≤ 4 cm/m	unlimited
shakes				
heart shakes (except check) [c] < 35 cm	not permitted	not permitted	≤ 1/2 ∅	permitted
≥ 35 cm	≤ 1/4 ∅	≤ 1/4 ∅	≤ 1/2 ∅	permitted
ring shakes [c] < 35 cm	not permitted	not permitted	not permitted	≤ 1/2 ∅
≥ 35 cm	not permitted	≤ 1/4 ∅	≤ 1/3 ∅	≤ 1/2 ∅
insect attack				
< 2 mm (e.g. *Trypodendron lineatum*)	not permitted	not permitted	not permitted [d]	permitted
≥ 2 mm (e.g. *Sirex*, *Cerambycidae*)	not permitted	not permitted	not permitted	Small-scale attack permitted

Table 1 (*continued*)

Characteristics	Classes			
	A	B	C	D
dote	not permitted	not permitted	For mid diameters < 35 cm permitted in the surface area up to 10 % of the mid diameter For mid diameters ≥ 35 cm permitted in the surface area up to 20 % of the mid diameter	permitted
rot	not permitted	not permitted	not permitted [e]	permitted [f]
stain	not permitted	not permitted	permitted in the sap area [g]	permitted

[a] Refer to the general description of quality classes.

[b] Method of measurement: width of reaction wood as a function of the cross section diameter (in addition to EN 1310).

[c] Mid diameter under bark.

[d] Initial stages of *Trypodendron lineatum* attack permitted.

[e] Small areas of surface rot are permitted in the area of the butt swelling.

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

[g] Specific contract regulations are recommended.

6 Additional criteria

In case of doubt, any externally visible or possible hidden flaws (e.g. knots under buckles, overgrown shakes, stripping damage) shall be laid bare and the revealed flaws assessed according to the quality specifications. Foreign bodies (e.g. shrapnel) are not dealt with in this Standard.

Where some characteristics of round wood of the classes A and B do not fulfil the quality criteria on agreement, they can be compensated by higher quality in other characteristics.

Generally, the following characteristics cannot be compensated: insect attack (especially *Trypodendron lineatum*), rot and stain. If there is compensation for minor rot of little consequence, an agreement is necessary.

Each log can be graded either in a single class or in more than one class by using theoretical crosscut points. The minimum length, accepted for a theoretical crosscut point, is 3 m.