



SLOVENSKI STANDARD

SIST EN 335-2:2006

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Nadomešča:
SIST EN 335-2:1995

Trajnost lesa in lesnih proizvodov - Definicije razredov uporabe - 2. del: Uporaba pri masivnem lesu

Durability of wood and wood-based products - Definition of use classes - Part 2: Application to solid wood

Dauerhaftigkeit von Holz und Holzprodukten - Definition der Gebrauchsklassen - Teil 2: Anwendung bei Vollholz

Durabilité du bois et des produits dérivés du bois - Définition des classes d'emploi - Partie 2 : Application au bois massif

Ta slovenski standard je istoveten z: EN 335-2:2006

ICS:

71.100.50	Kemikalije za zaščito lesa	Wood-protecting chemicals
79.040	Les, hlodovina in žagan les	Wood, sawlogs and sawn timber

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 335-2

August 2006

ICS 71.100.50

Supersedes EN 335-2:1992

English Version

Durability of wood and wood-based products - Definition of use classes - Part 2: Application to solid wood

Durabilité du bois et des produits dérivés du bois -
Définition des classes d'emploi - Partie 2 : Application au
bois massif

Dauerhaftigkeit von Holz und Holzprodukten - Definition der
Gebrauchsklassen - Teil 2: Anwendung bei Vollholz

This European Standard was approved by CEN on 7 July 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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 United Kingdom.

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Foreword

This document (EN 335-2:2006) has been prepared by Technical Committee CEN/TC 38 "Durability of wood and derived materials", 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 February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

This document supersedes EN 335-2:1992.

EN 335 is divided into three parts, Part 1 gives general definitions of use classes in different service situations, Part 2 concerns their application to solid wood and Part 3 concerns their application to wood-based panels

The revision of EN 335-2 is in accordance with ISO 21887 (under preparation).

NOTE Attention of users is drawn to the need to avoid misinterpretation of any numbering system using classes for timber which cannot correspond exactly to the European use classes defined in this part of EN 335.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 United Kingdom.

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EN 335-2:2006 (E)**Introduction**

The classes described in this part of EN 335 are based on an existing classification agreed by the European Homologation Committee (EHC) in 1981 and published in the EHC reference document in 1984.

Proposals for altering the five classes of EHC classification have been considered, particularly the possibility of harmonisation with other classes used outside Europe. It has, however, been judged that five classes are the most appropriate solution to European conditions.

The possibility of harmonisation between the three moisture categories of Eurocode 5 (EN 1995-1-1) and the five classes of all parts of EN 335 has been carefully studied. The latter have been adjusted as far as possible. Nevertheless, it is important to note that the two systems use different criteria to achieve different ends.

Any user may utilise the appropriate part of EN 335 to identify the "use class" of a given service environment and geographical location. Table 1 will assist in determining the biological agents that can attack timber in that situation. The user can then consider the type and duration of performance required, select an appropriate level of durability and ensure that the timber or wood-based product specified has that durability either, as a natural (see EN 350-2) or an acquired characteristic as the result of appropriate preservative treatment (see EN 351-1).

NOTE At the moment EN 350-2 gives information with regard only to solid wood. EN 351-1 considers only the performance of preservative-treated solid wood.

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1 Scope

This part of EN 335 offers guidance on the application to solid wood of the use classes, as defined in Part 1 of EN 335, in relation to the biological agents that can attack solid wood and solid wood panels.

NOTE Due to their specific behaviour against biological agents, solid wood panels are considered in this part of EN 335, as solid wood.

This Part shall be used in conjunction with Part 1 of EN 335.

Annex A gives information and guidance for the user to determine the appropriate use class and to select a suitable level of durability (either natural or conferred by preservative treatment). It does not give guidance on protective measures other than preservative treatment.

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.

None applicable.

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3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

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3.1

protected

subject to design and construction measures intended to prevent excessive exposure to the direct effects of the weather

3.2

solid wood

wood, sawn or otherwise machined which may include finger jointed and/or laminated wood

NOTE Adapted from EN 1001-2:2005, 1.39

3.3

solid wood panel

wood-based panel consisting of pieces of timber glued together at their edges and, if multi-layer, on their faces

[EN 12775:2001, 4.1]

EN 335-2:2006 (E)**4 Use classes: application to solid wood****4.1 Use class 1**

In this environment the moisture content of solid wood is such that the risk of attack by surface moulds or by staining or wood-destroying fungi is insignificant (that is the wood shall have a moisture content of maximum 20 %¹⁾ in any part for practically the whole of its service life). However, attack by wood-boring insects, including termites, is possible although the frequency and importance of the insect risk depends on the geographical region²⁾.

4.2 Use class 2

In this environment the moisture content of solid wood occasionally exceeds 20 %, either in the whole or only in part of the component and thus allows attack by wood-destroying fungi.

NOTE For timbers whose use includes a decorative function, disfigurement can also occur as a result of the growth of surface moulds and staining fungi.

Risk of insect attack is similar to that for use class 1²⁾.

4.3 Use class 3

In this environment solid wood can be expected to have a moisture content above 20 % frequently, and thus it will often be liable to attack by wood-destroying fungi.

NOTE For timbers whose use includes a decorative function, disfigurement can also occur as a result of the growth of surface moulds and staining fungi.

Risk of insect attack is similar to that for use class 1²⁾.

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4.4 Use class 4

In this environment solid wood has a moisture content in excess of 20 % permanently and is liable to attack by wood-destroying fungi.

NOTE Termites may be an additional problem in certain geographical regions. Additionally, the above-ground (or above-water) portion of certain components, for example fence posts, may be attacked by wood-boring beetles²⁾.

4.5 Use class 5

In this environment solid wood has a moisture content in excess of 20 % permanently. Attack by invertebrate marine organisms is the principal problem, particularly in the warmer waters where organisms such as *Limnoria* spp., *Teredo* spp. and Pholads can cause significant damage.

NOTE The above water portion of certain components, for example harbour piles, can be exposed to wood-boring insects, including termites²⁾.

1) Determined according to ISO 3130.

2) Beetles are present throughout Europe (including overseas regions of European countries), but the risk of attack varies greatly from high to insignificant. Local or national experts should be consulted for advice on the risk of insect attack

4.6 Summary of use classes for solid wood

Table 1 gives typical moisture content levels for solid wood and a summary of the biological agents which may attack it in the various use classes.

Table 1 — Summary of use class moisture content conditions and attacking biological agents for solid wood

Use class	General service situation ^a	Description of exposure to wetting in service	Occurrence of biological agents ^a			
			Fungi	Beetles ^b	Termites	Marine borers
1	interior, covered	dry max 20%	-	U	L	-
2	interior, or covered	occasionally > 20%	U ^c	U	L	-
3	3.1 exterior above ground, protected	occasionally > 20%	U ^c	U	L	-
	3.2 exterior, above ground, unprotected	frequently > 20%	U ^c	U	L	-
4	4.1 exterior in ground contact and/or fresh water	predominantly or permanently > 20%	U ^d	U	L	-
	4.2 exterior in ground (severe) and/or fresh water	permanently > 20%	U ^d	U	L	-
5	in salt water	permanently > 20%	U ^d	U ^e	L ^e	U
<p>U = universally present in Europe and UE territories L = locally present in Europe and UE territories</p> <p>^a Due to only locally criticality of exposure and the need of targeted prescription, sub-classification of biological agents is possible locally.</p> <p>^b The risk of attack can be insignificant according to specific situations and geographical locations.</p> <p>^c Disfiguring + decay fungi.</p> <p>^d Disfiguring + decay + soft rot fungi.</p> <p>^e The above water portion of certain components can be exposed to wood-boring insects, including termites..</p>						