SLOVENSKI STANDARD
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Trajnost lesa in lesnih proizvodov - Definicije razredov uporabe - 1. del: Splošno

Durability of wood and wood- based products - Definition of use classes - Part 1: General

Dauerhaftigkeit von Holz und Holzprodukten - Definition der Gebrauchsklassen - Teil 1: Allgemeines

Durabilité du bois et des matériaux dérivés du bois - Définition des classes d'emploi - Partie 1 : Généralités

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ICS:

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EUROPEAN STANDARD

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English Version

Durability of wood and wood- based products - Definition of use classes - Part 1: General

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Foreword

This document (EN 335-1:2006) has been prepared by Technical Committee CEN/TC 038 “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of an identical text or by endorsement, at the latest by February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.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 335-1:1992.

EN 335 is divided in 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 335-1 is in general accordance with ISO 21887 (in preparation).

NOTE Attention of users is therefore 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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Introduction

The classes described in this part of EN 335 are based on an existing classification agreed on 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 results.

Any user can use 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 certain situations. 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 either, as a natural (see EN 350-2) or an acquired characteristic durability as the result of appropriate preservative treatment (see EN 351-1).

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

1 Scope

This part of EN 335 defines five use classes which represent different service situations to which wood and wood-based products can be exposed. This part of EN 335 also indicates the biological agents relevant to each situation.

Annex A gives information on these biological agents.

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.

3 Terms and definitions

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

3.1
protected
subject to design and construction measures intended to prevent excessive exposure to direct effects of the weather

3.2
use class 1
situation in which the wood or wood-based product is under cover, not exposed to the weather and wetting

NOTE Adapted from EN 1001-2:2005, **1.46.**

3.3
use class 2
situation in which the wood or wood-based product is under cover and not exposed to the weather but where high environmental humidity can lead to occasional, but not persistent wetting

NOTE Adapted from EN 1001-2:2005, **1.47**.

3.4
use class 3
situation in which the wood or wood-based product is not under cover and not in contact with the ground. It is either continually exposed to the weather or is protected from the weather but subject to wetting

NOTE Adapted from EN 1001-2:2005, **1.48**.

3.5
use class 4
situation in which the wood or wood-based product is in contact with the ground or fresh water and thus is permanently exposed to wetting

[EN 1001-2:2005, **1.49**]

3.6
use class 5
situation in which the wood or wood-based product is permanently exposed to salt water

[EN 1001-2:2005, **1.50**]

4 Occurrence of biological agents in use classes

Table 1 presents information on the occurrence of biological agents (see Annex A) in the various use classes (see clause 3).

Table 1 – Occurrence of biological agents in use classes

Use class	General service situation	Description of exposure to wetting in service	Biological agents	
1	interior, covered	dry	Wood boring beetles	If termites also might be present the class is designated **1T**
2	Interior or covered	occasionally wet	As above + Disfiguring fungi + Decay fungi	If termites also might be present the class is designated **2T**
3	**3.1** exterior, above ground, protected	occasionally wet		If termites also might be present the class is designated **3.1T** or **3.2T**
	3.2 exterior, above ground, unprotected	frequently wet		
4	**4.1**exterior,in ground contact and/or fresh water	predominantly or permanently wet	As above + Soft rot	If termites also might be present the class is designated **4.1T** or **4.2T**
	4.2 exterior in ground (severe) and/or fresh water	permanently wet		
5	in salt water	permanently wet	Decay fungi Soft rot Marine borers	**A** Teredinids Limnoria
				B As in A + creosote tolerant Limnoria
				C As in B + Pholads

NOTE It may not be necessary to protect against all biological agents listed as they may not be present or economically significant in all service conditions in all geographic regions. A higher use class may be assigned if it is anticipated that service conditions may arise which would result in unexpected wetting of the timber, for example as a consequence of design faults, poor workmanship or lack of maintenance.

Annex A
(informative)

Information on biological agents[1)]

A.1 Introduction

Fungi, insects and marine borers affect both wood and wood-based products in different ways. The significance of attack by these agents can be different for solid wood (see EN 335-2) and wood-based products (see EN 335-3 for plywood, particle board, OSB, fibre board, cement-bonded board).

The consequence of wood and wood-based products being exposed to service conditions defined by the various use classes will vary depending upon their reactions to different wetting regimes.

EN 335-2 and EN 335-3 offer guidance on these regimes with respect to solid wood and wood-based panels.

A.2 Fungi

A.2.1 Wood destroying fungi

A.2.1.1 General

A wood moisture content of more than 20%[2)] is necessary for the development of these fungi.

A.2.1.2 Basidiomycete wood-rotting fungi

Fungi responsible for brown rot and white rot, but not soft rot.

A.2.1.3 Soft rot fungi

Fungi responsible for a type of rot characterised by surface softening of the wood although they can also cause rot at depth.

These fungi need higher wood moisture content than basidiomycetes. They are of special significance for wood in ground contact or in water.

A.2.2 Wood – disfiguring fungi

A.2.2.1 General

Fungi causing blue stain and mould in service.

These fungi are mainly of practical concern in relation to aesthetic appearance. They can degrade decorative coatings.

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1) Information on the susceptibility of species is given in EN 350-2.

2) Determined according to ISO 3130.