SLOVENSKI STANDARD
SIST EN 335:2013

01-september-2013

Nadomešča:
SIST EN 335-1:2006
SIST EN 335-2:2006
SIST EN 335-3:2002

Trajnost lesa in lesnih proizvodov - Razredi uporabe: definicije, uporaba pri masivnem lesu in lesnih ploščah

Durability of wood and wood- based products - Use classes: definitions, application to solid wood and wood based panels

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Dauerhaftigkeit von Holz und Holzprodukten - Gebrauchsklassen: Definitionen, Anwendung bei Vollholz und Holzwerkstoffen

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Durabilité du bois et des matériaux à base de bois - Classes d'emploi: définitions, application au bois massif et aux panneaux à base de bois

Ta slovenski standard je istoveten z: **EN 335:2013**

ICS:

71.100.50	Kemikalije za zaščito lesa	Wood-protecting chemicals
79.040	Les, hlodovina in žagan les	Wood, sawlogs and sawn timber
79.060.01	Lesne plošče na splošno	Wood-based panels in general

SIST EN 335:2013 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 335

March 2013

ICS 71.100.50; 79.040

Supersedes EN 335-1:2006, EN 335-2:2006, EN 335-3:1995

English Version

Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products

Durabilité du bois et des matériaux à base de bois - Classes d'emploi: définitions, application au bois massif et aux matériaux à base de bois

Dauerhaftigkeit von Holz und Holzprodukten - Gebrauchsklassen: Definitionen, Anwendung bei Vollholz und Holzprodukten

This European Standard was approved by CEN on 5 February 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 335:2013) has been prepared by Technical Committee CEN/TC 38 “Durability of wood and wood-based products”, 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of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.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 335-3:1995, EN 335-1:2006 and EN 335-2:2006.

Compared to EN 335, parts 1 to 3, the main modifications are as follows:

1) the former three parts of EN 335 have been combined;

2) the subclasses 3.1 and 3.2 have been redefined;

3) the subdivision of use class 4 has been omitted.

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Introduction

This standard gives general definitions of use classes for different service situations and is relevant to solid wood and wood-based products.

This standard gives information on the biological agents that can attack wood and wood-based products in defined situations.

The possibility of alignment between the three service classes of Eurocode 5 (EN 1995-1-1) and the five use classes of EN 335 has been carefully studied. It is important to note that the two systems use different criteria to achieve different results.

Annex A gives guidance on relationships between use classes and service classes.

Annex B gives additional information for the assignment of use classes.

Annex C gives information on biological agents.

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1 Scope

This European Standard is applicable to solid wood and wood-based products.

This European Standard defines five use classes that represent different service situations to which wood and wood-based products can be exposed. This standard also indicates the biological agents relevant to each situation.

A use class is not a performance class and does not give guidance for how long wood and wood-based product will last in service.

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 1001-2:2005, *Durability of wood and wood-based products — Terminology — Part 2:Vocabulary*

EN 1995-1-1, *Eurocode 5 — Design of timber structures — Part 1-1: General — Common rules and rules for buildings*

3 Terms and definitions

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For the purposes of this document, the terms and definitions given in EN 1001-2:2005 and the following apply.

3.1
service situation
situation of exposure of the wood element in use

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3.2
wood-based product
any products containing wood

Note 1 to entry: For instance solid wood panel, laminated veneer lumber (LVL), plywood, oriented strand board (OSB), resin-bonded particleboard, cement-bonded particleboard or fibreboard, modified wood are wood-based products.

4 Use classes: application to wood and wood-based products

4.1 General

The differences between the use classes are based on differences in environment exposures that can make the wood or wood-based products susceptible to biological deterioration.

NOTE Border line and extreme cases of use of wood and wood-based products exist. This can cause the assignment of a use class that differs from that defined in this standard (see Annex B).

4.2 Use class 1 (UC 1)

Situations in which the wood or wood-based product is inside a construction, not exposed to the weather and wetting.

The attack by disfiguring fungi or wood-destroying fungi is insignificant and always accidental.

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Attack by wood-boring insects, including termites, is possible although the frequency and importance of the insect occurrence depends on the geographical region[1)].

4.3 Use class 2 (UC 2)

Situations in which the wood or wood-based product is under cover and not exposed to the weather (particularly rain and driven rain) but where occasional, but not persistent, wetting can occur.

In this use class, condensation of water on the surface of wood and wood-based products may occur.

Attack by disfiguring fungi and wood-destroying fungi is possible.

Attack by wood-boring insects, including termites, is possible although the frequency and importance of the insect risk depends on the geographical region[1)].

4.4 Use class 3 (UC 3)

4.4.1 General

Situations in which the wood or wood-based product is above ground and exposed to the weather (particularly rain).

Attack by disfiguring fungi and wood-destroying fungi is possible.

Attack by wood-boring insects, including termites, is possible although the frequency and importance of the insect risk depends on the geographical region[1)].

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A large variety of in-use situations exists and, when relevant, use class 3 may be divided into two sub-classes use class 3.1 and use class 3.2.

NOTE Decay risk depends on the climatic and other in-use conditions (temperature, RH, rainfall, structural conditions, design details and maintenance provisions).

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4.4.2 Sub-class 3.1 (UC 3.1)

In this situation the wood and wood-based products will not remain wet for long periods. Water will not accumulate.

NOTE This may be achieved by, for example, a maintained and suitable coating, or by design or orientation of components to shed water or to dry quickly.

4.4.3 Sub-class 3.2 (UC 3.2)

In this situation the wood and wood-based products will remain wet for long periods. Water may accumulate.

NOTE Components are not designed or orientated to shed water or dry quickly.

4.5 Use class 4 (UC 4)

A situation in which the wood or wood-based product is in direct contact with ground and/or fresh water.

Attack by disfiguring fungi and wood-destroying fungi is possible.

[1)] If national standards do not specify the risk of insect attack, local or national experts should be consulted for advice on the risk of insect attack.

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Attack by wood-boring insects, including termites, is possible although the frequency and importance of the insect occurrence depends on the geographical region [1)].

NOTE Wood and wood-based products which are constantly below water level or completely buried and fully saturated by water are not susceptible to be attacked by fungi but may be damaged by bacterial decay.

4.6 Use class 5 (UC 5)

A situation in which the wood or wood-based product is permanently or regularly submerged in salt water (i.e. sea water and brackish water).

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. Attack by wood-destroying fungi and growth of surface moulds and staining fungi is also possible.

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

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4.7 Summary of use classes for wood and wood-based products

Table 1 — Summary of use classes and relevant attacking biological agents for wood and wood-based products

Use class	General use situation [a]	Occurrence of biological agents [b, c]				
		Disfiguring fungi	Wood-destroying fungi	Beetles	Termites	Marine borers
1	Interior, dry	-	-	U	L	-
2	Interior, or under cover, not exposed to the weather. Possibility of water condensation	U	U	U	L	-
3	Exterior, above ground, exposed to the weather. When sub-divided: **3.1** limited wetting conditions **3.2** prolonged wetting conditions	U	U	U	L	-
4	Exterior in ground contact and/or fresh water	U	U	U	L	-
5	Permanently or regularly submerged in salt water	U[d]	U[d]	U[d]	L[d]	U

U = ubiquitous in Europe and EU territories
L = locally present in Europe and EU territories

[a] Border line and extreme cases of use of wood and wood-based products exist. This can cause the assignment of a use class that differs from that defined in this standard (see Annex B).

[b] 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, or may not be able to attack some wood-based products due to the specific constitution of the product.

[c] See Annex C.

[d] The above water portion of certain components can be exposed to all of the above biological agents.

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