SLOVENSKI STANDARD
SIST EN 335-2:1995

01-november-1995

Trajnost lesa in lesnih materialov - Definicija razredov ogroženosti pred biološkim napadom - 2. del: Uporaba pri masivnem lesu

Durability of wood and wood-based products - Definition of hazard classes of biological attack - Part 2: Application to solid wood

Dauerhaftigkeit von Holz und Holzprodukten - Definition der Gefährdungsklassen für einen biologischen Befall - Teil 2: Anwendung bei Vollholz

Durabilité du bois et des matériaux dérivés du bois - Définition des classes de risque d'attaque biologique - Partie 2: Application au bois massif

Ta slovenski standard je istoveten z: **EN 335-2:1992**

ICS:

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

SIST EN 335-2:1995 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 335-2:1992

August 1992

UDC 674.04:620.197:620.193.8:001.4

Descriptors: Wood, sawn timber, biodegradability, hazards, classifications, definitions, pest control, durability

English version

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Contents

Foreword

This part of this European Standard has been drawn by WG 1 "Hazard classes" of the Technical Committee CEN/TC 38 "Durability of wood and wood-based products" with AFNOR as Secretariat.

This European Standard is divided in three parts, part 1 gives general definitions of hazard classes of biological attack, part 2 concerns their application to solid wood and part 3 concerns their application to wood-based panels, this last part has been established in association with CEN/TC 112 "Wood- based panels".

In the countries bound to implement this European Standard a national standard identical to this European Standard shall be published at the latest by 1993-02-28 and conflicting national standards shall be withdrawn at the latest by 1993-02-28.

In accordance with the CEN/CENELEC Common Rules the following countries are bound to implement this European Standard : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

1 SCOPE

This Part of EN 335 gives guidance on the application of the hazard classes, as defined in Part 1 of EN 335, to solid wood in relation to the biological agencies that can attack solid wood.

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

Annex A gives information and guidance for the user to determine the appropriate hazard class and to select a suitable level of durability (either natural or conferred by preservative treatment).

2 NORMATIVE REFERENCE

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard, only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 335-1 Durability of wood and wood-based products - Definition of hazard classes of biological attack Part 1 : General.

3 DEFINITION

For the purpose of this standard, the following definition applies :

3.1 solid wood

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

4 HAZARD CLASSES : APPLICATION TO SOLID WOOD

4.1 Hazard 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 % (m/m) (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 region (2).

4.2 Hazard class 2

In this environment the moisture content of solid wood occasionally exceeds 20 % (m/m) either in the whole or only in part of the component and thus allows attack by wood-destroying fungi. 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 hazard class 1 (2).

4.3 Hazard class 3

In this environment solid wood can be expected to have a moisture content above 20 % (m/m) frequently, and thus it will often be liable to attack by wood-destroying fungi. 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 hazard class 1 (2).

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(1) Determined according to ISO 3130

(2) Beetles are present throughout Europe, 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.

4.4 Hazard class 4

In this environment solid wood has a moisture content in excess of 20 % (m/m) permanently and is liable to attack by wood-destroying fungi. 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 beetles (2).

4.5 Hazard class 5

In this environment solid wood has a moisture content in excess of 20 % (m/m) permanently. Attack by invertebrate marine organisms is the principal problem, particularly in the warmer waters where organisms such as **Limnoria spp.** and **Teredo spp.** can cause significant damage. The above water portion of certain components, for example
harbour piles, can be exposed to wood-boring insects, including termites (2).

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(2) Beetles are present throughout Europe, 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 hazard classes for solid wood

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

Table 1 - Summary of hazard class moisture content conditions and attacking biological agencies for solid wood

Hazard classes	Wood moisture content	Occurence of biological agencies					
		Wood destroying fungi		Wood disfiguring fungi *	Insects		Marine borers
		Basidiomycetes	Soft rot	Bleu stain	Beetles	Termites	
1	Max 20 %	-	-	-	U	L	-
2	Occasionnally > 20 %	U	-	U	U	L	-
3	Fréquently >20 %	U	-	U	U	L	-
4	Permanently >20 %	U	U	U	U	L	-
5	Permanently >20 %	U	U	U	U	L	U

U = Universally present within Europe
L = Locally present within Europe
* Mould : Protection against mould fungi may also be considered