SLOVENSKI STANDARD
oSIST prEN 14128:2018

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Trajnost lesa in lesnih proizvodov - Merila učinkovitosti farmakoloških zaščitnih sredstev za les, ugotovljeno z biološkimi preskusi

Durability of wood and wood-based products - Efficacy criteria for curative wood preservatives as determined by biological tests

Dauerhaftigkeit von Holz und Holzprodukten - Anforderungen an bekämpfend wirkende Holzschutzmittel, wie sie durch biologische Prüfungen ermittelt werden

Durabilité du bois et des matériaux dérivés du bois - Efficacité des produits curatifs de préservation du bois établis par des essais biologiques

Ta slovenski standard je istoveten z: **prEN 14128**

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

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Will supersede EN 14128:2003

English Version

Durability of wood and wood-based products - Efficacy criteria for curative wood preservatives as determined by biological tests

Durabilité du bois et des matériaux dérivés du bois - Efficacité des produits curatifs de préservation du bois établis par des essais biologiques

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If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 14128:2018) has been prepared by Technical Committee CEN/TC 38 “Durability of wood and wod-based panels”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This European Standard gives the performance criteria for curative wood preservatives as determined by biological tests. A European Technical Report (CEN/TR 15003) is concerned with criteria for hot air processes for curative uses against wood destroying organisms.

This European Standard is valid for products to eradicate wood boring beetles in infested wood and for products to be used in the course of curative actions against the dry rot fungus to prevent its growth through masonry and beyond.

This document will supersede EN 14128:2003.

Compared to current EN 14128, the following modifications have been made:

a) Clause 6: the limits of the application rates of the fungicide solution have been removed;

b) Table 1: criterion for effective value changed to criterion for brv. Table re-organised;

c) clauses and sub-clauses contained in 8.2 Product classification; 8.3 and 8.4 Product description; 8.5 and 8.6 Product labelling, have been merged in 8.2 Product labelling;

d) Annex B and C merged and changed from normative to informative;

e) Annexes D and F are deleted.

Introduction

This European Standard should be used in conjunction with EN 599-1, which describes the performance requirements for preventive wood preservatives as determined by biological tests.

The need to use curative products against wood destroying organisms depends upon a careful diagnosis by expert, qualified specialists to determine the precise causes of the damage to be rectified. This should include the type of wood attacking organisms involved and whether they are active, the environmental circumstances, especially the source and nature of any wetting, the type of wood involved, the nature of the building or construction, and the structural and physical significance of the timber which is damaged or at risk of being damaged.

Curative treatment can be achieved either by chemical wood preservatives as specified in this European Standard or by specific curative processes without using chemicals, like hot air processes, as given in CEN/TR 15003.

Curative wood preservative products should be used in an integrated way as part of a carefully prescribed strategy involving a series of actions appropriate to the particular circumstances of each case. Associated physical measures involving appropriate building works to remedy ingress of moisture and to dry out any dampness can be an essential prerequisite for the use of any curative products. Expert diagnosis should take into account all regional, practical, environmental, economical, safety and any other factors which can be relevant to the prescriptive decisions to be taken.

It is not the purpose of this European Standard to provide a specification, or even guidance in developing specifications for remedial work to eradicate wood destroying organisms. This European Standard also does not give guidance on the methods of application or the precise amounts of products that might be appropriate to apply in specific practical circumstances. It is intended to guide specifiers, users and others in selecting and specifying products on the basis of their effectiveness as demonstrated in accordance with the criteria given.

1 Scope

This European Standard specifies the minimum performance requirements in biological tests for products for curative uses against specific wood destroying organisms. It specifies the biological tests required together with the efficacy criteria to be achieved in each test.

Chemicals against insects can act according to their specific properties within a short time (fast acting) or only after a long period (slow acting or with a deferred effect). Different tests and efficacy requirements are needed for these various types of curative wood preservatives.

This European Standard is applicable to all wood preservative products supplied for application in liquid form for curative uses against attack by wood boring beetles. This European Standard is also applicable for products applied to prevent the growth of the dry rot fungus through masonry.

This European Standard is also applicable to products for curative uses supplied for application as pastes, solids or in capsule form but only where appropriate biological methods of test exist as published European Standards or as normative annexes to this European Standard.

NOTE 1 For re-testing after making variations in product formulation, guidance is given in Annex A.

NOTE 2 This standard is used as a reference document for the evaluation of efficacy of biocidal products PT8 (wood preservatives) in the framework of the European Regulation on Biocidal Products (EU) No 528/2012 (BPR).

This European Standard is not applicable to products used as fumigants.

This European Standard is also not applicable for determining whether specific curative products, used alone or in combination, are effective in conferring long-term protection against attack by wood destroying organisms. Preventive effectiveness can be determined using EN 599-1 but only for products that can be tested using the methods and interpretative procedures defined in EN 599-1.

Annex A (informative) contains a guidance on re-testing after making variations in product formulation.

Annex B (informative) contains some test recommendations for specific curative products against other insect species than Hylotrupes bajulus and Anobium punctatum.

Annex C (informative) contains a guidance for physical chemical properties.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 48, *Wood preservatives — Determination of eradicant action against larvae of Anobium punctatum (De Geer) (laboratory method)*

EN 370, *Wood preservatives — Determination of eradicant efficacy in preventing emergence of Anobium punctatum (De Geer)*

EN 599-1:2009+A1:2013, *Durability of wood and wood-based products — Efficacy of preventive wood preservatives as determined by biological tests — Part 1: Specification according to use class*

EN 1390, *Wood preservatives — Determination of the eradicant action against Hylotrupes bajulus (Linnaeus) larvae — Laboratory method*

CEN/TS 12404, *Durability of wood and wood-based products — Assessment of the effectiveness of a masonry fungicide to prevent growth into wood of Dry Rot Serpula lacrymans (Schumacher ex Fries) S.F. Gray — Laboratory method*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
active ingredient
individual chemical compound or compounds included in a wood preservative to give it specific activity against biological agents of deterioration

3.2
barrier treatment
treatment of masonry in case of dry rot fungus infection, to avoid its growth beyond the treated zone

3.3
biological reference value (brv)
amount in grams per square meter or kilograms per cubic meter of the wood preservative product found to be effective in test in eradicating the infection by the particular biological agent being tested

Note 1 to entry: The application rate is expressed as grams per square meters in the case of curative products.

3.4
curative efficacy
specific property of a wood preservative to act as an eradicant of pests in infested timber

3.5
deferred effect
eradicant effect which is not immediate but occurs at a later stage in the life cycle

Note 1 to entry: In laboratory tests the curative effect is shown in a period of more than 26 weeks and up to the test period defined in the relevant standard.

EXAMPLE 1 A product coming into contact with the larval stage of the target insect species and having an effect on the nymphal or adult stage, thus preventing the emergence of the insect from the wood and its further dissemination.

EXAMPLE 2 A product with a very low concentration of active ingredient, which needs to be bio-accumulated by the larvae during more than 6 months in the lab test in order to cause their death.

3.6
effective value
amount in grams per square meter of the wood preservative corresponding to the highest of the brvs obtained in all the tests carried out in accordance with this European Standard to support the claimed efficacy of the product

3.7
fast acting
curative products which achieve the required level of effectiveness within a period of three months in the lab test

3.8
maximum application limit
maximum amount in millilitres per square meter of the wood preservative product permitted for application to the wood specimens in the particular biological test

Note 1 to entry: The maximum application limit is the maximum amount of the curative liquid product that can be practically applied to the wood specimens.

3.9
preventive efficacy
property of a wood preservative to avoid infestation of the wood by particular biological agencies of deterioration

3.10
product
formulated wood preservative product in the form supplied for sale by the manufacturer

3.11
slow acting
curative products which achieve the required level of effectiveness in a period longer than three months but not more than six months using the appropriate standard test method

3.12
wood preservative
active ingredient(s) or preparations containing active ingredient(s) in the form in which they are placed on the market, which are, on the basis of the properties of their active ingredient(s), intended either to prevent wood destroying or wood disfiguring organisms (fungi, insects and marine borers) from attacking wood and wood-based products or to combat an attack by those organisms

Note 1 to entry: For the purpose of this European Standard, the term wood preservatives includes also the products that eradicate an existing infection.

4 Wood destroying organisms

4.1 Insects

The wood attacking beetles considered in this European Standard, for which an EN test method exist, are the following:

— *Hylotrupes bajulus* (house longhorn beetle) in the sapwood of softwoods;

— *Anobium punctatum* (common furniture beetle) in softwoods and hardwoods.

They are considered representative of all wood attacking beetles (5.1.3 applies).

4.2 Dry rot fungus

The dry rot fungus (*Serpula lacrymans* = true dry rot fungus) occurs in buildings, causing brown rot in timber. The fungus can develop at relatively low wood moisture contents and is able to penetrate damp masonry over long distances in order to infect further timber or to develop its fruit-bodies.

5 Efficacy requirements for products against wood boring beetles

5.1 Minimum requirements for curative efficacy

The curative wood preservative product shall be tested in accordance with the tests specified in Table 1, taking into consideration the relevant organisms and the type of insecticidal product (see 5.1.1).

5.1.1 The following types of insecticidal products are considered:

— fast acting products;

— slow acting products;

— products with deferred effect.

The type of action (fast, slow, deferred effect) for a single product might differ for different target species.

5.1.2 Tests of insecticidal activity shall be carried out against one of the following:

a) "*Hylotrupes bajulus* (C-H)" **and** "*Anobium punctatum* (C-A)" unless b) or c) is applicable and is selected; or

b) the more tolerant species, if the product is based on insecticide(s) for which data on curative efficacy already exist which show different activities against *Hylotrupes bajulus* and *Anobium punctatum*, that is the brv for the less tolerant species is less than 80 % of the brv for the more tolerant species; or

c) against "*Hylotrupes bajulus* (C-H)" **or** "*Anobium punctatum* (C-A)", if the product is based on insecticide(s) for which data on the curative efficacy already exist which show more or less equal activity against both beetle species, that is the brv of the least tolerant beetle species is equal to or greater than 80 % of the brv of the more tolerant beetle species.

5.1.3 The maximum application rate in the test shall not exceed 300 ml per square meter.

5.1.4 If the curative wood preservative is designed to be used for the protection of items of cultural heritage for *Anobium punctatum,* the mortality at the end of the test shall be at least 90 %.

5.2 Requirements for preventive efficacy

Where local conditions require the curative wood preservative product to have also preventive efficacy, or to support the claims of manufacturers or the demands of specifiers, the product shall have its preventive efficacy tested in accordance with EN 599-1 at an application rate equal to or lower than that at which tests were conducted to assess the curative efficacy.

6 Efficacy requirements for barrier treatments against dry rot fungus

The masonry fungicide tested according to CEN/TS 12404 shall prevent the growth of the fungus through mortar specimens.

7 Derivation of effective values

7.1 Effective value against beetles

The effective value is derived from the results of the biological tests. The manufacturer recommended application rate shall not be lower than the effective value (see 3.6).