SLOVENSKI STANDARD
SIST EN 927-2:2014

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Nadomešča:
SIST EN 927-2:2006

Barve in laki - Premazi in premazni sistemi za zunanjo zaščito lesa - 2. del: Specifikacija lastnosti

Paints and varnishes - Coating materials and coating systems for exterior wood - Part 2: Performance specification

Beschichtungsstoffe - Beschichtungsstoffe und Beschichtungssysteme für Holz im Außenbereich - Teil 2: Leistungsanforderungen

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Peintures et vernis - Produits de peinture et systèmes de peinture pour le bois en extérieur - Partie 2 : Spécifications de performance

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Ta slovenski standard je istoveten z: **EN 927-2:2014**

ICS:

71.100.50	Kemikalije za zaščito lesa	Wood-protecting chemicals
87.040	Barve in laki	Paints and varnishes

SIST EN 927-2:2014 **en,fr,de**

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EUROPEAN STANDARD

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English Version

Paints and varnishes - Coating materials and coating systems for exterior wood - Part 2: Performance specification

Peintures et vernis - Produits de peinture et systèmes de peinture pour le bois en extérieur - Partie 2: Spécifications de performance

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This European Standard was approved by CEN on 25 July 2014.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 927-2:2014) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.

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 927-2:2006.

The following significant technical changes have been made with respect to EN 927-2:2006:

a) test profiles for the three main end-use categories (as defined in EN 927-1) have been updated to include additional test methods;

b) Annex A has been deleted; further information on test methods is found in Clause 5, or the referenced test methods themselves.

EN 927 consists of the following parts under the general title: *Paints and varnishes — Coating materials and coating systems for exterior wood*

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— *Part 1: Classification and selection;*

— *Part 2: Performance specification;*

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— *Part 3: Natural weathering test;*

— *Part 5: Assessment of the liquid water permeability;*

— *Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water.*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This European Standard is one of a number of parts of EN 927. EN 927-1 addresses the issue of terminology for the wide variety of exterior coatings for wood that are now available. EN 927-1 also provides a framework for communicating information on the suitability of a coating for particular specific end-use categories. Improved communication is beneficial in the removal of technical barriers to trade. However, there remains the problem of comparing products tested, or likely to be exposed, in different climatic regions, and the relevance of tests for different categories of end-use. EN 927-2 addresses these issues and sets a limited number of mandatory performance criteria combined with optional tests that can provide additional information to a standardized format.

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1 Scope

This part of EN 927 addresses performance criteria for coating systems on exterior wood. Performance requirements are specified according to three categories of end use (defined in EN 927-1) in terms of two mandatory tests namely natural weathering performance testing carried out in accordance with EN 927-3, and water permeability in accordance with EN 927-5. Additional optional tests (non-mandatory) are tabled which may be used by suppliers, or for specification purposes, to provide additional information, to a standardized format, on aspects of performance relevant to specific situations. The majority of test methods are drawn from EN 927 (all parts), but where relevant additional tests from other national and international sources are used.

Requirements for claiming conformity with EN 927-2 are defined and provide flexibility for different situations and can also provide a basis for certification.

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 927-1:2013, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 1: Classification and selection*

EN 927-3:2012, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 3: Natural weathering test*

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EN 927-5, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 5: Assessment of the liquid water permeability*

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EN 927-6, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water*

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EN 16492, *Paints and varnishes - Evaluation of the surface disfigurement caused by fungi and algae on coatings*

CEN/TS 16358, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of air inclusions/microfoam in coating films*

CEN/TS 16359, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of knot staining resistance of wood coatings*

CEN/TS 16360, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of film extensibility by indentation of a coating on a wooden substrate*

CEN/TS 16498, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of tannin staining*

CEN/TS 16499, *Paints and varnishes - Coating materials and coating systems for exterior wood - Resistance to blocking of paints and varnishes on wood*

CEN/TS 16700, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of resistance to impact of a coating on a wooden substrate*

EN ISO 4618:2006, *Paints and varnishes - Terms and definitions (ISO 4618:2006)*

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EN ISO 4628-1, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system (ISO 4628-1)*

EN ISO 7783, *Paints and varnishes - Determination of water-vapour transmission properties - Cup method (ISO 7783)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 927-1:2013 and EN ISO 4618:2006 apply.

4 Performance tests – Testing profiles

EN 927-1 classifies exterior wood coatings according to appearance (75 possibilities) and three broad end-use categories. Assessment of performance is carried out with reference to the end-use categories, which are grouped according to the extent to which wood movement shall be controlled. Performance will be strongly influenced by appearance (e.g. transparent versus opaque), by substrate (e.g. wood species) and by climatic and exposure conditions. It is open to suppliers or end-users to agree a combination of tests (see Table 1 and Table 2) that suit particular situations provided that testing is carried out according to the principles described in this European Standard and includes the specified mandatory tests. Requirements for claiming conformity are described in Clause 7. When optional tests are carried out, they shall be reported according to the format described in this European Standard.

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Table 1 — Test methods

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Property	**Test method (current ref.)**	**End-use category (see** EN 927-1**)**		
		Stable	**Semi-stable**	**Non-stable**
Basic classification	EN 927-1	Mandatory	Mandatory	Mandatory
Natural weathering on pine	EN 927-3	Mandatory	Mandatory	Mandatory
Natural weathering on alternative substrates	EN 927-3	Optional	Optional	Optional
Natural weathering on alternative test piece	EN 927-3	Optional	Optional	Optional
Water-vapour transmission properties	EN ISO 7783	Optional	Optional	Optional
Water absorption	EN 927-5	Mandatory	Mandatory	Mandatory
Artificial weathering	EN 927-6	Optional	Optional	Optional
Knot staining	CEN/TS 16359	Optional	Optional	Optional
Tannin staining	CEN/TS 16498	Optional	Optional	Optional
Microfoam	CEN/TS 16358	Optional [a]	Optional	Optional
Film extensibility	CEN/TS 16360	Optional	Optional	Optional
Blocking test	CEN/TS 16499	Optional	Optional	Optional
Impact resistance	CEN/TS 16700	Optional	Optional	Optional
Fungal and algae growth	EN 16492	Optional	Optional	Optional

[a] Mandatory only for spray applications.

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Table 2 — Test methods in preparation

Property	Test method [a]	End-use category (see EN 927-1)		
		Stable	Semi-stable	Non-stable
Wet adhesion (parallel cross-cut)	–	Optional	Optional	Optional
Wet adhesion (pull)	–	Optional	Optional	Optional
UV transmittance and transparency	–	Optional	Optional	Optional
End grain sealing	–	Optional	Optional	Optional

[a] Currently under development.

5 Test overview

5.1 Natural weathering

5.1.1 General

The assessment of a coating material to this European Standard will require a natural weathering test to be carried out in accordance with EN 927-3, using a flat wood panel of pine *(Pinus sylvestris)* with a planed surface. A manufacturer of a coating system that meets one or more of the performance criteria described in 5.1.2 can use this information as part of a claim to conformity with the specification, as described in Clause 7.

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The external durability of the coating system under test is assessed by a number of performance criteria. Guide values enable an assessment to be made of the suitability of the system for the proposed end-use. Comparative trials have shown that conformity to the criteria outlined in 5.1.2 sets a repeatable and reproducible performance standard.

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5.1.2 Performance criteria

The scores for the assessment criteria, blistering, cracking, flaking and adhesion in according to EN 927-3 are interpreted as meeting, or not meeting the required standard, relative to the end-use category, according to the criteria given in Table 3. These rankings are relative to the exposure test site and care should be taken not to transfer the results uncritically to other geographical areas.

Interpretation of criteria:

1) The first four values in each column each represent the maximum allowed for the arithmetic mean (to one decimal place) of the three replicates from the natural weathering test in according to EN 927-3;

2) the maximum sum value is the limit which shall not be exceeded for the sum of the 12 (4 × 3) individual results;

3) the maximum difference to qualify as valid test refers to the difference between the highest and lowest score in any of the individual test panels. If this value is exceeded the test is declared invalid and shall be repeated;

4) if a coating system exceeds the maximum sum value, or maximum difference for any end-use category then the manufacturer may not claim conformity for that category.