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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 927-2:2022 sisaldab Euroopa standardi EN 927-2:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 927-2:2022 consists of the English text of the European standard EN 927-2:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 23.11.2022.	Date of Availability of the European standard is 23.11.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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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

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

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 927-2:2022) 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 927-2:2014.

The following significant technical changes have been made with respect to EN 927-2:2014:

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

b) Existing test methods (5.2) have been updated to include additional methods and 5.3 (Test methods in preparation) has been deleted.

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

— *Part 1: Classification and selection*

— *Part 2: Performance specification*

— *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*

— *Part 7: Assessment of knot staining resistance of wood coatings*

— *Part 8: Determination of the adherence of paint on wood by means of a double X-cut test*[1]

— *Part 9: Determination of pull-off strength after water exposure*[1]

— *Part 10: Resistance to blocking of paints and varnishes on wood*

— *Part 11: Assessment of air inclusions/microfoam in coating films*

— *Part 12: Ultraviolet and visible radiation transmittance*

— *Part 13: Assessment of resistance to impact of a coating on a wooden substrate*

— *Part 14: Determination of tensile properties of coating films*

[1] This document has been published as a CEN/TS in 2020.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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

Introduction

This document 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. This document 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.

1 Scope

This document 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 can 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 this document are specified and provide flexibility for different situations and can also provide a basis for certification.

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

EN 927-3:2019, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 3: Natural weathering test*

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

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*

EN 927-7, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 7: Assessment of knot staining resistance of wood coatings*

CEN/TS 927-8, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 8: Determination of the adhesion on wood after water exposure by a double-X-cut test*

CEN/TS 927-9, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 9: Determination of pull-off strength after water exposure*

EN 927-10, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 10: Resistance to blocking of paints and varnishes on wood*

EN 927-11, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 11: Assessment of air inclusions/microfoam in coating films*

CEN/TS 927-12:—[2], *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 12: Ultraviolet and visible radiation transmittance*

[2] Under preparation. Stage at the time of publication: FprCEN/TS 927-12:2022.

EN 927-13, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 13: Assessment of resistance to impact of a coating on a wooden substrate*

EN 927-14:—[3], *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 14: Determination of tensile properties of coating films*

EN 16492, *Paints and varnishes - Evaluation of the surface disfigurement caused by fungi and algae on 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 16969, *Paints and varnishes - Coating materials and coating systems for exterior wood - Assessment of end grain sealing performance*

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

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 and EN ISO 4618 apply.

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

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

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

4 Performance tests – Testing profiles

EN 927-1 classifies exterior wood coatings according to appearance (build, hiding power and gloss) and three broad end-use categories (stable, semi-stable and non-stable). 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) that suit particular situations provided that testing is carried out according to the principles described in this document 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 document.

[3] Under preparation. Stage at the time of publication: FprEN 927-14:2022.