

**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 927-2:2014 sisaldab Euroopa standardi EN 927-2:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 927-2:2014 consists of the English text of the European standard EN 927-2:2014.
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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

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

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

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

Page

Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Terms and definitions .....	6
4 Performance tests – Testing profiles.....	6
5 Test overview .....	7
5.1 Natural weathering.....	7
5.1.1 General.....	7
5.1.2 Performance criteria .....	7
5.1.3 Exposure conditions .....	8
5.1.4 Natural weathering – Alternative substrates .....	8
5.1.5 Natural weathering – Alternative test piece .....	8
5.2 Existing test methods .....	8
5.2.1 Water permeability.....	8
5.2.2 Artificial weathering .....	9
5.2.3 Knot staining .....	9
5.2.4 Tannin staining .....	9
5.2.5 Microfoam.....	9
5.2.6 Film extensibility.....	9
5.2.7 Blocking.....	9
5.2.8 Impact test .....	9
5.2.9 Fungal and algal growth .....	10
5.3 Test methods in preparation .....	10
5.3.1 Wet adhesion (parallel cross-cut test).....	10
5.3.2 Wet adhesion (pull-off test) .....	10
5.3.3 UV transmittance .....	10
5.3.4 End grain sealing.....	10
6 Summary of test methods and reporting convention.....	10
7 Expression of results and claiming conformity – Scope and reporting convention.....	11
Bibliography.....	13

## 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*

- *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.*

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.

## 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.

## 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*

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 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)*

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.

**Table 1 — Test methods**

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 <sup>a</sup>	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
<sup>a</sup> Mandatory only for spray applications.				