

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

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 927-5:2007 sisaldab Euroopa standardi EN 927-5:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.01.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 927-5:2007 consists of the English text of the European standard EN 927-5:2006.</p> <p>This document is endorsed on 29.01.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This part of EN 927 specifies a test method for assessing the liquid water permeability of coating systems for exterior wood.</p>	<p>Scope: This part of EN 927 specifies a test method for assessing the liquid water permeability of coating systems for exterior wood.</p>
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ICS 87.040

Võtmesõnad: painting, paints, product informations, protective coatings, range of application, selection, stress, surface protection, surface treatment, surfaces, test panels, testing, use, varnishes, water absorption, water permeability, wood, wood preservation

English Version

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

Peintures et vernis - Produits de peinture et systèmes de
peinture pour le bois en extérieur - Partie 5 : Détermination
de la perméabilité à l'eau liquide

Beschichtungsstoffe - Beschichtungsstoffe und
Beschichtungssysteme für Holz im Außenbereich - Teil 5:
Beurteilung der Wasserdurchlässigkeit

This European Standard was approved by CEN on 4 May 2006.

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Foreword

This document (EN 927-5:2006) 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 June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

This document supersedes EN 927-5:2000.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The treatment of exterior wood surfaces has both aesthetic and protective functions. A vital purpose of a coating system is to protect the wood against aesthetic deterioration (e.g. blue stain attack) and dimensional changes. Because such attacks are mainly caused by high moisture contents in the wood, a knowledge of the relative water permeability properties of coating materials applied to exterior wood is helpful in selecting products for particular end-use applications, as described in EN 927-1.

1 Scope

This part of EN 927 specifies a test method for assessing the liquid water permeability of coating systems for exterior wood.

2 Normative references

The following referenced documents are indispensable for the application 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.

prEN ISO 2808:2004, *Paints and varnishes — Determination of film thickness (ISO/DIS 2808:2004)*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

3 Terms and definitions

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

3.1

water absorption

ability of a coated or uncoated wood panel to absorb water from liquid or vapour

3.2

water permeability

ability of a coating system to allow the transmission of water as liquid or vapour

[EN 927-1]

3.3

stable mass

mass achieved when the difference between two subsequent weighings within 24 h does not exceed 0,2 %

4 Principle

Water permeability is assessed by measuring the water uptake over a 72 h period of a coated test panel exposed to liquid water.

The coating under test is applied to the face of a defined test panel where the remaining face and sides are carefully sealed using a sealer of a defined mandatory low permeability.

Results are expressed as water absorption of coated wood panels in grams per square metre test surface per 72h.

5 Test panels

5.1 Wood

The wood shall be spruce (*Picea abies*) that has been selected to be free from knots and cracks, to be straight-grained and of normal growth rate (i.e. between 3 and 8 annual rings per 10 mm). The inclination of the growth rings to the test face shall be $(45 \pm 10)^\circ$. See Figure 1.