

Paints and varnishes - Drying tests - Part 4: Test using a mechanical recorder (ISO 9117-4:2012)

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 9117-4:2012 sisaldab Euroopa standardi EN ISO 9117-4:2012 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 9117-4:2012 consists of the English text of the European standard EN ISO 9117-4:2012.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.08.2012.	Date of Availability of the European standard is 15.08.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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

ICS 87.040

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

ICS 87.040

English Version

Paints and varnishes - Drying tests - Part 4: Test using a
mechanical recorder (ISO 9117-4:2012)

Peintures et vernis - Essais de séchage - Partie 4: Essai à
l'aide d'un enregistreur mécanique (ISO 9117-4:2012)

Beschichtungsstoffe - Trocknungsprüfungen - Teil 4:
Prüfung mit einem mechanischen Rekorder (ISO 9117-
4:2012)

This European Standard was approved by CEN on 14 August 2012.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 9117-4:2012) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with 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 February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.

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.

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, 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.

Endorsement notice

The text of ISO 9117-4:2012 has been approved by CEN as a EN ISO 9117-4:2012 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Principle	1
3.1 Straight-line recorder	1
3.2 Circular recorder	1
4 Sampling	1
5 Test panels	2
5.1 Substrate	2
5.2 Coating of test panels	2
6 Test conditions and number of tests	2
7 Method A — Using a straight-line drying-time recorder	2
7.1 Apparatus	2
7.2 Procedure	2
8 Method B — Using a circular drying-time recorder	3
8.1 Apparatus	3
8.2 Procedure	3
9 Classification of drying stages	4
10 Precision	5
11 Test report	5

Introduction

The drying time of a coating is significant in determining when a freshly painted room, floor or stairway may be put back in use or when a freshly coated article may be handled or packaged. Slow drying might result in dirt pick-up or, on an exterior surface, moisture might cause a non-uniform appearance.

The test described in this part of ISO 9117 is used to determine, using a mechanical recorder, the various stages of drying or curing in the dry-film formation of organic coatings for the purpose of comparing types of coating or ingredient changes, or both. To evaluate the stages of drying in a quantitative manner, the use of the recorder under controlled environmental conditions is strongly recommended. The use of a mechanical recorder also offers a method of determining the drying characteristics of coatings that cannot be ascertained within the standard 8 h working day.

This test is useful in comparing the behaviour, during drying, of coatings of the same generic type. Determination of actual drying times should be conducted following procedures specified e.g. in ISO 9117-1 or ISO 9117-3.

Paints and varnishes — Drying tests —

Part 4:

Test using a mechanical recorder

1 Scope

This part of ISO 9117 specifies a test for determining the times taken to reach various stages of drying of organic coatings, using a mechanical straight-line or circular drying-time recorder. The use of a mechanical recorder is valuable in comparing the drying behaviour of coatings of the same generic type, when one coating might form a gel at a faster rate than another or might resist scratching better than another. The test is intended to simulate the conditions which exist when painted articles are stacked upon each other.

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.

ISO 1513, *Paints and varnishes — Examination and preparation of test samples*

ISO 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Principle

3.1 Straight-line recorder

In method A (using a straight-line recorder), the coating is applied to glass strips measuring at least 300 mm × 25 mm. The strips are positioned so that a stylus can be lowered into the wet film on each. The styluses move along the glass strips at a selected constant speed.

3.2 Circular recorder

In method B (using a circular recorder), the coating is applied to a glass plate measuring approximately 150 mm × 150 mm. The drying-time recorder is immediately placed on the wet film and a stylus lowered into the film and moved in a 360° arc at a selected constant speed.

4 Sampling

Take a representative sample of the product to be tested (or of each product in the case of a multi-coat system), as described in ISO 15528.

Examine and prepare each sample for testing, as described in ISO 1513.