

Paints and varnishes - Determination of resistance to abrasion - Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen (ISO 7784-3:2016)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 7784-3:2016 sisaldab Euroopa standardi EN ISO 7784-3:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 7784-3:2016 consists of the English text of the European standard EN ISO 7784-3:2016.
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 13.04.2016.	Date of Availability of the European standard is 13.04.2016.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Paints and varnishes - Determination of resistance to  
abrasion - Part 3: Method with abrasive-paper covered  
wheel and linearly reciprocating test specimen (ISO 7784-  
3:2016)

Peintures et vernis - Détermination de la résistance à  
l'abrasion - Partie 3: Méthode utilisant une roue  
revêtue de papier abrasif et Méthode utilisant une roue  
revêtue de papier abrasif et une éprouvette animée  
d'un mouvement de va-et-vient linéaire (ISO 7784-  
3:2016)

Beschichtungsstoffe - Bestimmung des  
Abriebwiderstandes - Teil 3: Verfahren mit  
schleifpapierbelegtem Rad und sich hin- und  
herbewegender Probe (ISO 7784-3:2016)

This European Standard was approved by CEN on 27 February 2016.

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

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## European foreword

This document (EN ISO 7784-3:2016) 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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 ISO 7784-3:2006.

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.

### Endorsement notice

The text of ISO 7784-3:2016 has been approved by CEN as EN ISO 7784-3:2016 without any modification.

# Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Principle</b>	<b>2</b>
<b>5 Apparatus and materials</b>	<b>3</b>
<b>6 Test specimens</b>	<b>4</b>
6.1 Preparation of test specimens	4
6.2 Film thickness	4
6.3 Conditioning	4
<b>7 Procedure</b>	<b>4</b>
7.1 Agreements	4
7.2 Preparation of the abrasive wheel	4
7.3 Test conditions	5
7.4 Number of determinations	5
7.5 General test procedure	5
7.6 Procedure of the pre-test	5
7.7 Procedure of the main test	6
<b>8 Evaluation of the main test</b>	<b>6</b>
8.1 Loss in mass by abrasion	6
8.2 Abrasion resistance	6
<b>9 Precision</b>	<b>6</b>
9.1 General	6
9.2 Repeatability limit	6
9.3 Reproducibility limit	6
<b>10 Test report</b>	<b>7</b>
<b>Bibliography</b>	<b>8</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 7784-3:2000), which has been technically revised with the following changes:

- a) the title has been changed;
- b) the terms and definitions clause has been amended;
- c) a figure explaining the principle of the method was amended;
- d) the supplementary test conditions previously in Annex A have been integrated in the test report;
- e) the calibration of the apparatus previously in Annex B has been deleted;
- f) the test procedure has been re-arranged;
- g) the text has been editorially revised and the normative references have been updated.

ISO 7784 consists of the following parts, under the general title *Paints and varnishes — Determination of resistance to abrasion*:

- *Part 1: Method with abrasive-paper covered wheels and rotating test specimen*
- *Part 2: Method with abrasive rubber wheels and rotating test specimen*
- *Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen*

## Introduction

This part of ISO 7784 is one of the three parts of ISO 7784 dealing with test methods for the determination of the resistance to abrasion of coatings using abrasive wheels. The characteristics and differences of these methods are summarized in [Table 1](#).

**Table 1 — Types of method**

Standard	Abrasive wheel		Test specimen movement
	Type	Degree of freedom	
ISO 7784-1	Abrasive paper on rubber wheel	Freely rotatable	Rotation
ISO 7784-2	Abrasive rubber wheel		
ISO 7784-3	Abrasive paper on metal wheel	Rigid – with stroke-dependent rotation <sup>a</sup>	Linear reciprocation

<sup>a</sup> A mechanism rotates the abrasive wheel by a small angle after each double stroke so that a new area of the abrasive paper is effective.

The methods using abrasive-paper covered wheels (ISO 7784-1 and ISO 7784-3) are preferably to be applied.

# Paints and varnishes — Determination of resistance to abrasion —

## Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen

### 1 Scope

This part of ISO 7784 specifies a method for determining the resistance to abrasion of coatings, for which a loaded, rigid abrasive-paper covered wheel affects the coating of the linearly reciprocating test specimen.

### 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.

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 4618, *Paints and varnishes — Terms and definitions*

ISO 7823-1, *Plastics — Poly(methyl methacrylate) sheets — Types, dimensions and characteristics — Part 1: Cast sheets*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and the following apply.

#### 3.1

##### **test specimen**

specimen on which the test is to be carried out

#### 3.2

##### **double stroke**

##### **ds**

one complete reciprocal movement made by the abrasive wheel

#### 3.3

##### **repeatability conditions**

conditions where independent test results are obtained with the same method on identical test items in the same laboratory by the same operator using the same equipment within short intervals of time

[SOURCE: ISO 5725-1:1994, 3.14]