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| <b>STN</b> | <b>Náterové látky</b><br><b>Stanovenie odolnosti proti oderu</b><br><b>Časť 1: Metóda s kotúčom pokrytým brúsnym</b><br><b>papierom a rotujúcou skúšobnou vzorkou</b><br><b>(ISO 7784-1: 2023)</b> | <b>STN</b><br><b>EN ISO 7784-1</b><br><br>67 3074 |
|------------|--|---|

Paints and varnishes - Determination of resistance to abrasion - Part 1: Method with abrasive-paper covered wheels and rotating test specimen (ISO 7784-1:2023)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/23

Obsahuje: EN ISO 7784-1:2023, ISO 7784-1:2023

Oznámením tejto normy sa ruší  
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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 7784-1**

February 2023

ICS 87.040

Supersedes EN ISO 7784-1:2016

English Version

**Paints and varnishes - Determination of resistance to  
abrasion - Part 1: Method with abrasive-paper covered  
wheels and rotating test specimen (ISO 7784-1:2023)**

Peintures et vernis - Détermination de la résistance à  
l'abrasion - Partie 1: Méthode utilisant des roues  
revêtues de papier abrasif et une éprouvette rotative  
(ISO 7784-1:2023)

Beschichtungsstoffe - Bestimmung des  
Abriebwiderstandes - Teil1: Verfahren mit  
schleifpapierbelegten Rädern und rotierender Probe  
(ISO 7784-1:2023)

This European Standard was approved by CEN on 22 January 2023.

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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**

**EN ISO 7784-1:2023 (E)**

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## **European foreword**

This document (EN ISO 7784-1:2023) 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of an identical text or by endorsement, at the latest by August 2023, and conflicting national standards shall be withdrawn at the latest by August 2023.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 ISO 7784-1:2016.

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

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, 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.

## **Endorsement notice**

The text of ISO 7784-1:2023 has been approved by CEN as EN ISO 7784-1:2023 without any modification.

# INTERNATIONAL STANDARD

# ISO 7784-1

Third edition  
2023-02

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## Paints and varnishes — Determination of resistance to abrasion —

### Part 1: Method with abrasive-paper covered wheels and rotating test specimen

*Peintures et vernis — Détermination de la résistance à l'abrasion —*

*Partie 1: Méthode utilisant des roues revêtues de papier abrasif et une  
éprouvette rotative*



Reference number  
ISO 7784-1:2023(E)

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**ISO 7784-1:2023(E)****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)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 7784-1:2016), which has been technically revised.

The main changes are as follows:

- [Figures 1](#) and [2](#) have been updated;
- some measures in [5.1.4](#), [5.2.1](#) and in the note to [5.3](#) have been updated;
- the text has been editorially revised and the normative references have been updated.

A list of all parts in the ISO 7784 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



## Introduction

This document 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.

It is preferable that the methods using abrasive-paper covered wheels (in this document and ISO 7784-3) are applied.



# Paints and varnishes — Determination of resistance to abrasion —

## Part 1: Method with abrasive-paper covered wheels and rotating test specimen

### 1 Scope

This document specifies a method for determining the resistance to abrasion of coatings, for which two loaded, freely rotatable but eccentrically arranged abrasive-paper covered wheels affect the coating of the rotating test specimen.

### 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.

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 48-4, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 4: Indentation hardness by durometer method (Shore hardness)*

ISO 48-5, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 5: Indentation hardness by IRHD pocket meter method*

FEPA Standard 43-1, *Grains of fused aluminium oxide, silicon carbide and other abrasive materials for coated abrasives Macrogrits P 12 to P 220<sup>1)</sup>*

FEPA Standard 43-2, *Grains of fused aluminium oxide, silicon carbide and other abrasive materials for coated abrasives Microgrits P 240 to P 5000<sup>1)</sup>*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**

1) FEPA: Federation of European Producers of Abrasives.