INTERNATIONAL STANDARD

ISO 1518-2

Second edition
2019-06

Paints and varnishes — Determination of scratch resistance —

Part 2: Variable-loading method

Peintures et vernis — Détermination de la résistance à la rayure —

Partie 2: Méthode à charge variable

Reference number
ISO 1518-2:2019(E)

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Published in Switzerland

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Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Apparatus **2**
6 Sampling **3**
7 Test panels **3**
7.1 Substrate 3
7.2 Preparation and coating 4
7.3 Drying and conditioning 4
7.4 Thickness of coating 4
8 Procedure **4**
8.1 Test conditions 4
8.2 Preparation for the test 4
8.3 Determination 4
9 Expression of results **5**
10 Precision **5**
11 Test report **6**
Bibliography **7**

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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).

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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.

This document was prepared by Technical Committee 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 1518-2:2011), which has been technically revised. The main changes compared to the previous edition are as follows:

— Clause 3, Terms and definitions, has been added;

— Clauses 7 and 10 have been aligned with ISO 1518-1.

A list of all parts in the ISO 1518 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.

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Paints and varnishes — Determination of scratch resistance —

Part 2: Variable-loading method

1 Scope

This document specifies a method for determining, using a pointed stylus loaded with a continuously increasing load, the scratch resistance of a single coating of a paint, varnish or related product, or the upper layer of a multicoat system.

This test has been found to be useful in comparing the scratch resistance of different coatings. It is most useful in providing relative ratings for a series of coated panels exhibiting significant differences in scratch resistance.

NOTE Neither this document nor ISO 1518-1 specifies a method using a curved stylus, which is specified in ISO 12137. The choice between the three methods will depend on the particular practical problem.

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 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 4618, *Paints and varnishes — Terms and definitions*

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

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The product or system under test is applied at uniform thickness to flat panels of uniform surface texture. After drying/curing, the scratch resistance is determined using an automatic instrument which pushes the panels beneath a pointed stylus mounted so that it presses down perpendicularly on

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