SLOVENSKI STANDARD
SIST EN ISO 15091:2020

01-april-2020

Nadomešča:
SIST EN ISO 15091:2013

Barve in laki - Določanje električne prevodnosti in električne upornost (ISO 15091:2019)

Paints and varnishes - Determination of electrical conductivity and resistance (ISO 15091:2019)

Beschichtungsstoffe - Bestimmung der elektrischen Leitfähigkeit und des elektrischen Widerstandes (ISO 15091:2019)

Peintures et vernis - Détermination de la conductivité et de la résistance électriques (ISO 15091:2019)

Ta slovenski standard je istoveten z: **EN ISO 15091:2020**

ICS:

87.040	Barve in laki	Paints and varnishes

SIST EN ISO 15091:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 15091

January 2020

ICS 87.040

Supersedes EN ISO 15091:2012

English Version

Paints and varnishes - Determination of electrical conductivity and resistance (ISO 15091:2019)

Peintures et vernis - Détermination de la conductivité et de la résistance électriques (ISO 15091:2019)

Beschichtungsstoffe - Bestimmung der elektrischen Leitfähigkeit und des elektrischen Widerstandes (ISO 15091:2019)

This European Standard was approved by CEN on 29 November 2019.

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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

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European foreword

This document (EN ISO 15091:2020) 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of an identical text or by endorsement, at the latest by July 2020, and conflicting national standards shall be withdrawn at the latest by July 2020.

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 15091:2012.

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, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 15091:2019 has been approved by CEN as EN ISO 15091:2020 without any modification.

INTERNATIONAL STANDARD

ISO 15091

Second edition
2019-11

Paints and varnishes — Determination of electrical conductivity and resistance

Peintures et vernis — Détermination de la conductivité et de la résistance électriques

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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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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.

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 15091:2012), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

— the conductivity of the aqueous potassium chloride solution with a molality of 0,001 mol/kg has been corrected to 146,71 µS/cm to correct a mistake in conductivity;

— the text has been editorially revised.

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.

Paints and varnishes — Determination of electrical conductivity and resistance

1 Scope

This document specifies a method for determining the electrical conductivity and the electrical resistance of coating materials. The conductivity is usually measured for water-borne paints and varnishes, including electrodeposition coating materials, and the resistance is usually measured for solvent-borne paints and varnishes. If required, the resistivity of the coating material is calculated from either of these measurements. The method is applicable to products having a conductivity less than 5 µS/cm, corresponding to a resistivity greater than 200 kΩ·cm.

The conductivity of coating materials influences their processibility in the presence of an electric field. This is particularly important for electrodeposition paints and coating materials which are processed electrostatically.

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 3696, *Water for analytical laboratory use — Specification and test methods*

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 and the following 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/

3.1
electrical resistance
R
ratio of the potential difference along a conductor and the current through the conductor

Note 1 to entry: Resistance is given by Ohm's law shown in Formula (1):

$$R = \frac{U}{I} \tag{1}$$

where

