



SLOVENSKI STANDARD
oSIST prEN ISO 22553-9:2021
01-maj-2021

Barve in laki - Elektrodepozicijski premazi - 9. del: Izgube pri sušenju (ISO 22553-9:2020)

Paints and varnishes - Electro-deposition coatings - Part 9: Stoving loss (ISO 22553-9:2020)

Beschichtungsstoffe - Elektrottauchlacke - Teil 9: Einbrennverlust (ISO 22553-9:2020)

Peintures et vernis - Peintures d'électrodéposition - Partie 9: Perte par d'étuvage (ISO 22553-9:2020)

iTeh STANDARD PREVIEW
(standards.itteh.ai)

Ta slovenski standard je istoveten z: prEN ISO 22553-9
oSIST prEN ISO 22553-9:2021
<http://standards.itteh.ai/catalog/standards/sist/57492253/iso-22553-9-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

ICS:

87.040

Barve in laki

Paints and varnishes

oSIST prEN ISO 22553-9:2021

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

INTERNATIONAL
STANDARD

ISO
22553-9

First edition
2020-04

**Paints and varnishes — Electro-
deposition coatings —**

**Part 9:
Stoving loss**

Peintures et vernis — Peintures d'électrodéposition —

Partie 9: Perte par d'étuvage
iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>



Reference number
ISO 22553-9:2020(E)

© ISO 2020

iTeh STANDARD PREVIEW (standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Principle.....	1
5 Apparatus and materials.....	1
6 Test panels.....	2
7 Number of determinations.....	3
8 Procedure.....	3
9 Evaluation.....	4
10 Precision.....	4
11 Test report.....	4
Annex A (informative) Calculation of the relative mass loss factors, the relative reaction loss factor and the relative total stoving loss factor.....	5

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

ISO 22553-9:2020(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).

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).

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*.

A list of all parts in the ISO 22553 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.

Introduction

The stoving loss of an electro-deposition coating is not an absolute parameter but instead depends on the temperature used during testing and the test duration. As a result, relative values alone and not the true values for the stoving loss are obtained when using this method.

The relative mass loss factor, the relative reaction loss factor, and the relative total stoving loss factor can be calculated relative to the coated and vented, pre-dried and stoved test panel. The calculation is specified in [Annex A](#).

iTeh STANDARD PREVIEW (standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](#)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[oSIST prEN ISO 22553-9:2021](https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021)

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

Paints and varnishes — Electro-deposition coatings —

Part 9: Stoving loss

1 Scope

This document specifies a method for determining the volatile-matter content of electro-deposition coatings (e-coats) during stoving (stoving loss) used for automotive industries and other general industrial applications, e.g. chiller units, consumer products, radiators, aerospace, agriculture.

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 4618, *Paints and varnishes — Terms and definitions*

ISO 22553-1, *Paints and varnishes — Electro-deposition coatings — Part 1: Vocabulary*

ISO 23321, *Solvents for paints and varnishes — Demineralized water for industrial applications — Specification and test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and ISO 22553-1 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

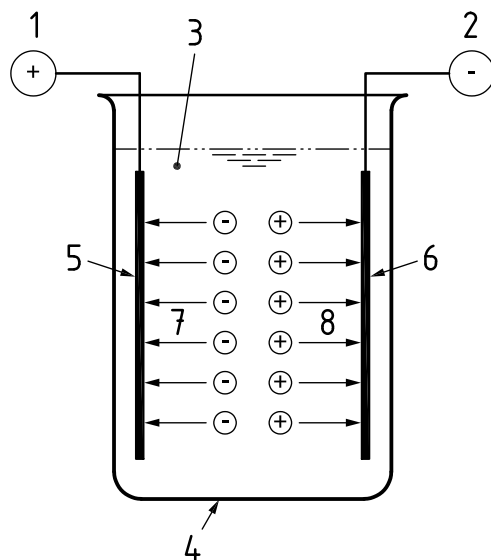
The non-volatile matter is determined after stoving of the electro-deposition coating and the stoving loss is calculated from this.

5 Apparatus and materials

Typical laboratory apparatus, together with the following:

ISO 22553-9:2020(E)

5.1 Laboratory deposition system, which consists of a deposition tank with tank recirculation and DC voltage equipment — see [Figure 1](#).

**Key**

1	anode	5	anode (counter electrode for cathodic e-coat)
2	cathode	6	cathode (test panel for cathodic e-coat)
3	electro-deposition coating material	7	acid
4	deposition tank	8	electro-deposition coating material

Figure 1 — Schematic diagram of a laboratory deposition system with cathodic e-coat material as an example

<https://standards.iteh.ai/catalog/standards/sist/75c4963f-8d69-46f2-a045-f8b6160233df/osist-pren-iso-22553-9-2021>

The container of the deposition system shall be filled with the electro-deposition coating material and the tank circulation (stirrer or pump) is initiated. Subsequently, the test panels shall be immersed in the container. The deposition conditions shall be adjusted according to the specification and the deposition process is initiated. Upon completion of the deposition process, the test panels shall be removed from the container and thoroughly rinsed using demineralized water specified in ISO 23321, so that any excess of the electro-deposition coating material (cream coat) is removed.

5.2 Ampere meter.

5.3 Thermometer, with a reading accuracy of 0,1 °C.

5.4 Analytical balance, with a weighing accuracy of 0,000 1 g.

5.5 Oven, in which the test can be carried out reliably and using which the specified or agreed test temperature can be held to within ± 2 °C (for temperatures up to 150 °C) or $\pm 3,5$ °C (for temperatures between 150 °C and 200 °C).

5.6 Timer, with a reading accuracy of 1 s.

6 Test panels

Use electrically conductive test panels with pre-treatment as specified in ISO 1514 with dimensions of approximately 190 mm × 105 mm × 0,75 mm.