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Barve in laki - Vrednotenje napak na premazanih površinah z uporabo digitalne obdelave slik - 1. del: Splošno navodilo (ISO/DIS 21227-1:2026)

Paints and varnishes - Evaluation of defects on coated surfaces using digital image processing - Part 1: General guidance (ISO/DIS 21227-1:2026)

Beschichtungsstoffe - Beurteilung von Beschichtungsschäden mittels digitaler Bildverarbeitung - Teil 1: Allgemeine Anleitung (ISO/DIS 21227-1:2026)

Peintures et vernis - Évaluation des défauts sur des surfaces revêtues par traitement numérique d'images - Partie 1: Lignes directrices générales (ISO/DIS 21227-1:2026)

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ICS:

87.040

Barve in laki

Paints and varnishes

oSIST prEN ISO 21227-1:2026

en,fr,de

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DRAFT International Standard

ISO/DIS 21227-1

Paints and varnishes — Evaluation of defects on coated surfaces using digital image processing —

Part 1: General guidance

ICS: 87.040

ISO/TC 35/SC 9

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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* 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 second edition cancels and replaces the first edition (ISO 21227-1:2008), which has been technically revised.

The main changes are as follows:

- new methods for digital image processing have been added;
- the definitions for “bright-field illumination” (3.2.2), “coaxial bright-field illumination” (3.2.3), “brightness” (3.5.4) and “contrast” (3.5.5) have been changed;
- a new definition for “metric calibration of a digital measuring system” (3.10) has been added;
- calibration has been added as [Clause 5](#);
- the normative references have been updated.

A list of all parts in the ISO 21227 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.

ISO/DIS 21227-1:2025(en)**Introduction**

This document describes various methods that enable damage patterns to be evaluated on the basis of images that are generated in different ways. Here, different physical principles are used to help identify zones with different levels/types of damage and to determine the distances between the boundaries that mark the extent of the damage or the proportional areas of the damaged regions on the basis of the image data. The technology described in the various parts of this International Standard can yield more objective, accurate, quantitative and reproducible results when compared to the human visual evaluation techniques.

This document is an instruction for creating analyzable images for the application of digital image processing and image processing systems for the quantitative characterization of defects on coated surfaces that occur after exposure in various test methods, e.g. stone chipping, weathering or cross-cut testing. One aim of the ISO 21227 series of standards is to use digital image processing to reproduce the results of existing methods for visual assessment. Additionally, digital image processing provides further information which can be used for a more detailed evaluation of coating defects.

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Paints and varnishes — Evaluation of defects on coated surfaces using digital image processing —

Part 1: General guidance

1 Scope

This document contains a general introduction to the methods and definitions of digital image processing. The performance of individual test methods and requirements for precision are described in other parts of the standard.

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 4618, *Paints and varnishes — Vocabulary*

CIE PUBLICATION NO. 17.4:1987, *International lightning vocabulary*/IEC 60050-845:1987, *International Electrotechnical Vocabulary — Lightning*

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 terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 digital image processing

method for acquiring, digitizing, processing and analysing images using optical components and computer systems

Note 1 to entry: It results in a set of features that describe the degree of damage to a test panel. In addition, a further digital image is generated in which different areas of damage are marked.

3.2 illumination

application of light to a scene, objects or their surroundings so that they may be seen

[SOURCE: CIE 17.4:1987/IEC 60050-845:1987]