

**Paints and varnishes - Evaluation of defects on coated surfaces using optical imaging - Part 1: General guidance (ISO 21227- 1:2003)**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 21227-1:2011 sisaldab Euroopa standardi EN ISO 21227-1:2003 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.01.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.08.2003.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 21227-1:2011 consists of the English text of the European standard EN ISO 21227-1:2003.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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The standard is available from Estonian standardisation organisation.

ICS 87.040

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EUROPEAN STANDARD

**EN IS 21227-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

**Paints and varnishes - Evaluation of defects on coated surfaces  
using optical imaging - Part 1: General guidance (ISO 21227-  
1:2003)**

Peintures et vernis - Evaluation par imagerie optique des défauts des surfaces revêtues - Partie 1: Lignes directrices générales (ISO 21227-1:2003)

Beschichtungsstoffe - Beurteilung von Beschichtungsschäden mittels digitaler Bildverarbeitung - Teil 1: Allgemeine Anleitung (ISO 21227-1:2003)

This European Standard was approved by CEN on 1 July 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 21227-1 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

ISO 21227 consists of the following parts, under the general title *Paints and varnishes — Evaluation of defects on coated surfaces using optical imaging*:

- *Part 1: General guidance*
- *Part 2: Evaluation procedure for results of multi-impact stone-chipping test*
- *Part 3: Evaluation procedure for delamination and corrosion around a scribe*

At the time of publication of this part of ISO 21227, Parts 2 and 3 were in preparation.

## Introduction

Conventional ISO test methods used for evaluating surface defects and appearance changes often utilize pictorial standards which depict particular types of surface deterioration and require human visual evaluation. 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.

# Paints and varnishes — Evaluation of defects on coated surfaces using optical imaging —

## Part 1: General guidance

### 1 Scope

This part of ISO 21227 gives definitions for and provides guidance in the use of optical imaging 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 ISO 21227 is to use optical imaging to reproduce the results of already existing methods for visual assessment. Additionally, optical imaging provides further information which can be used for a more detailed evaluation of coating defects.

This part of ISO 21227 contains a general introduction in optical-imaging methods and definitions. The performance of individual test methods and requirements for precision are described in other parts of the standard.

### 2 Normative references

The following referenced documents are indispensable for the application 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.

CIE Publication No. 17.4:1987, *International lighting vocabulary*/IEC 60050-845:1987, *International Electrotechnical Vocabulary — Lighting*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **optical imaging**

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

#### 3.2

##### **illumination**

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

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

#### 3.2.1

##### **reflection illumination**

illumination whereby light source and optical sensor are both arranged on the same side of the object