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Paints and varnishes — Determination of image clarity (degree of sharpness of reflected or transmitted image)

Peintures et vernis — Détermination de la netteté de l'image (degré de netteté de l'image réfléchie ou transmise)

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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.

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

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Introduction

Visual assessment of the image clarity of paint films (coatings) is carried out by evaluating the sharpness of an image reflected from a surface, using a specified incident angle, for reflection. For transmission, image sharpness is evaluated by viewing a suitable target through the paint films. The degree of image clarity is influenced by the clearness, surface irregularities and haziness of a surface(s). Gloss values and haze values do not correctly assess this phenomenon. Image clarity is not the same as, and should not be confused with, gloss or haze. Therefore, standardized methods for determining the optical parameter of image clarity are needed.

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Paints and varnishes — Determination of image clarity (degree of sharpness of reflected or transmitted image)

1 Scope

This document specifies an instrumental method for determining the image clarity on paint films (coatings) by measuring reflection from the specimen surface or transmission through the specimen.

The method can be applied only to a flat surface.

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 4618, *Paints and varnishes — Terms and definitions*

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

ISO 17221, *Plastics — Determination of image clarity (degree of sharpness of reflected or transmitted image)*

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
image clarity
degree of sharpness of an image reflected by a specimen or transmitted through a specimen

Note 1 to entry: Image clarity is expressed as a percentage (%).

[SOURCE: ISO 17221:2014, 3.1]

4 Principle

For the measurement of image clarity, a lamp illuminates the narrow source aperture-slit. The collimating lens projects a parallel beam upon the specimen. The image is either reflected from or transmitted through the specimen, as appropriate. The image is received by the de-collimating lens and focused upon the optical mask. The light passing through the optical mask is received by the light receptor. This resultant signal is processed yielding image clarity values.

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