INTERNATIONAL STANDARD

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Imaging materials — Photographic reflection prints — Determination of abrasion resistance of photographic images

Matériaux pour l'image — Impressions de reflexion photographiques — Détermination de la résistance à l'abrasion des images photographiques

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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. 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.

The committee responsible for this document is ISO/TC 42, *Photography*.

Introduction

This method is one of a series relating to image durability. Others in this family include scratch resistance and water resistance. Compared to image permanence standards that cover ever-present environmental factors such as light, heat, ozone, and humidity, this family of durability standards covers factors that are not necessarily present in the environment. Although the consumer may have less control over the environmental factors in which a print is stored or displayed, they may have more control over durability aspects such as careful handling and good quality storage enclosures. "Accidental" exposures and resulting damage such as water or food spills on a print, as opposed to always-present environmental factors, can, with care on the part of the consumer, be reduced. Obviously, this is not always true and in some cases, such as rubbing caused by turning pages in a photo book or natural disasters caused by flooding, the end user has little control. This International Standard provides standardized requirements to evaluate and quantify the abrasion resistance of photographic images in their various formats such as hard copy prints and photo books.

Abrasion and smudge can include both accidental and repeating factors resulting from handling of the image. The following are some examples of sources of abrasions:

— dirt particles rubbing on printed surface;

— sheet-to-sheet abrasion (sliding motion of sheets relative to each other);

— prints sliding on tables or other flat surfaces;

— interaction with dirt or components inside of printers;

— magnets or other items used in the display of images.

Imaging materials — Photographic reflection prints — Determination of abrasion resistance of photographic images

1 Scope

This International Standard specifies tests to determine the abrasion, scuff, and smudge resistance of photographic images. This International Standard is applicable to photographic prints and photo books prepared by digital and analogue processes.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2813, *Paints and varnishes — Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees*

ISO 8254-1, *Paper and board — Measurement of specular gloss — Part 1: 75 degree gloss with a converging beam, TAPPI method*

ISO 13655, *Graphic technology — Spectral measurement and colorimetric computation for graphic arts images*

ASTM D 2240, *Standard Test Method for Rubber Property — Durometer Hardness*

3 Terms and definitions

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

3.1
ambient conditions
environmental conditions of the test

3.2
abrasion
process of wearing away or deformation of a surface by friction as a result of rubbing

3.3
scuff
result of abrasion, leading to a change in gloss

3.4
smudge
result of abrasion leading to the displacement of colorants into adjacent areas as a result of the re-deposition of abraded material

3.5
receptor
substrate used to abrade the test specimen and onto which ink or overcoat that is removed from the specimen is transferred during the abrasion test

Note 1 to entry: An example of a receptor is the back side of the printed media being evaluated or a standard reference paper.