PD ISO/TR 18945:2018

BSI Standards Publication

Imaging materials — Pictorial colour reflection prints — Comparison of image degradation observed between ISO 18930 accelerated weathering test method and outdoor exposure

bsi.

National foreword

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The UK participation in its preparation was entrusted to Technical Committee CPW/42, Photography.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2018

ISBN 978 0 580 97566 0

ICS 37.040.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 October 2018.

Amendments/corrigenda issued since publication

Date	Text affected

PD ISO/TR 18945:2018

TECHNICAL REPORT

ISO/TR 18945

First edition
2018-10

Imaging materials — Pictorial colour reflection prints — Comparison of image degradation observed between ISO 18930 accelerated weathering test method and outdoor exposure

Matériaux pour l'image — Impression des impressions photographiques en couleurs — Comparaison de la dégradation de l'image observée entre la méthode d'essai de vieillissement accéléré de l'ISO 18930 et l'exposition extérieure

Reference number
ISO/TR 18945:2018(E)

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Published in Switzerland

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Foreword

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 42, *Photography*.

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

Printed digital images are used in many applications in which they are exposed to outdoor weathering. ISO 18930 provides standardized test procedures to evaluate image stability both in real-time outdoor weathering tests and in accelerated laboratory simulations of the weathering process. Accelerated laboratory weathering tests have been developed as a result of the desire to obtain test results faster than would be obtained by actual outdoor exposure. However, accelerated weathering tests only have value if they can be correlated with actual outdoor performance.

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1 Scope

This document describes the experimental framework, results, and conclusions from a round robin test that was performed in order to establish correlations between accelerated weathering according to the ISO 18930 test method and outdoor weathering at nine outdoor sites.

The types of digital printing technology that were used in this round robin test are aqueous inkjet, solvent inkjet, UV curable inkjet, digitally-exposed silver halide, and thermal mass transfer. The image print stability data and correlations of this document are to be considered illustrative of the performance of these classes of materials. Extension of these correlations to other classes of materials, such as dye sublimation, is verified by appropriate experimentation.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
digital printing media
recording elements used by digital printers to receive inks or pre-formed colourants

EXAMPLE The substrate may be paper, plastic, canvas, fabric, metal, or other ink-receptive material; the substrate may, or may not, be coated with an ink-receptive layer. The category of digital printers includes inkjet, electrophotographic and thermal transfer.

3.2
laminate
overlaminate
layer of material that goes over the top or bottom of a specimen

Note 1 to entry: Usually to provide water-resistance, physical, and/or ultraviolet (UV) light protection of the specimen during a weathering test. A layer of protective film is applied with a pressure-sensitive or heat-activated adhesive.

3.3
accelerated laboratory weathering
simulated weathering where instruments (weathering devices) are used to obtain very controlled conditions that simulate, to some degree, and generally accelerate, the outdoor weathering results

Note 1 to entry: The use of such instruments is described in ISO 4892-1[2] and ASTM G151[16].