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Graphic technology - Laboratory preparation test prints - Part 2: Liquid printing inks

Technologie graphique - Préparation en laboratoire des impressions d'essai - Partie 2: Encres d'impression liquides

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INTERNATIONAL STANDARD

ISO 2834-2

Second edition
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Graphic technology — Laboratory preparation test prints —

Part 2: Liquid printing inks

Technologie graphique — Préparation en laboratoire des impressions d'essai —

Partie 2: Encres d'impression liquides

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 130, *Graphic technology*.

This second edition cancels and replaces the first edition (ISO 2834-2:2007), which has been technically revised.

ISO 2834 consists of the following parts, under the general title *Graphic technology — Laboratory preparation of test prints*:

— *Part 1: Paste inks*

— *Part 2: Liquid printing inks*

— *Part 3: Screen printing inks*

Introduction

This part of ISO 2834 describes the test print preparation of liquid inks (gravure and flexography). These test prints have a homogeneous distribution of ink on a substrate, a reproducible ink composition and relative ink coverage. Therefore, they are suitable for optical tests so that the measured reflectance can be assigned to a known ink coverage. If tests are done only for mechanical and chemical resistance, the user may apply less accurate methods. The preparation of test prints for paste inks (lithography) is described in ISO 2834-1, while screen inks are covered in ISO 2834-3.

In ISO 2834-1, specific operational settings for the “round-to-round” and the “round-to-flat” offset ink printability testers are provided. Printability testers for liquid inks encompass a much wider array of operating processes and associated settings. Therefore, the guidelines included in ISO 2834-2 are more general and will, of necessity, result in more opportunities for operator error in making the test prints.

This revised version of ISO 2834-2 was developed to incorporate an ink coverage and an dry ink film thickness determination and to remove the references to ISO 2846-3 and ISO 2846-5.

Graphic technology — Laboratory preparation test prints —

Part 2: Liquid printing inks

1 Scope

This part of ISO 2834 specifies a test method for preparation of test prints produced with liquid water-based or solvent-based printing inks as used in flexography and gravure printing. These test prints are intended primarily for optical tests, such as gloss, colorimetry, transparency and reflection density. They can also be used for testing light fastness and the chemical, physical and mechanical resistance to mechanical and chemical attack regarding either printing ink and/or substrate. Flexographic inks with higher viscosity, such as those cured by radiation, are also covered. This part of ISO 2834 is not applicable to inks for ink jet printing.

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 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 2431, *Paints and varnishes — Determination of flow time by use of flow cups*

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

3 Terms and definitions

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

3.1
anilox roller
chromium plated or a ceramic roller with evenly distributed small cells generally mounted on a flexographic printing press to control the quantity of ink transferred to the printing forme

3.2
extender
transparent material (varnish or polymer solution) used to reduce the colorant concentration while maintaining viscosity to adapt ink colour concentration to print substrates

3.3
printing forme for flexography
cylinder or sleeve covered with a relief type rubber or photopolymer plate for application of printing ink to print substrate

3.4
printing forme for gravure
mechanically engraved or laser-engraved or chemically etched cylinder, sleeve or plate for application of printing ink to a print substrate

